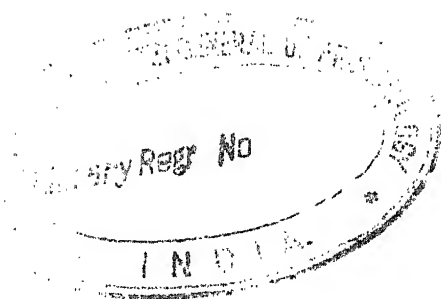


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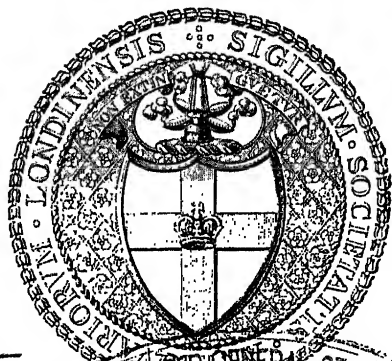
PROCEEDINGS
OF THE
SOCIETY OF ANTIQUARIES
OF LONDON

22ND NOVEMBER 1917 TO 27TH JUNE 1918

SECOND SERIES, VOL. XXX

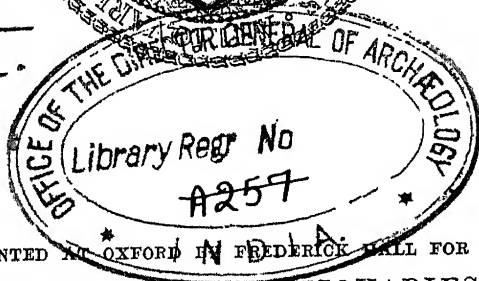


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PROCEEDINGS
OF THE
SOCIETY OF ANTIQUARIES
OF LONDON

SESSION 1917—1918.

THURSDAY, 22nd NOVEMBER 1917.

Sir CHARLES HERCULES READ, Knt., LL.D., F.B.A.,
Vice-President, in the Chair.

The following gifts were announced, and thanks for the same ordered to be returned to the donors :

From His Grace the Duke of Portland, K.G., G.C.V.O. :—The Welbeck Abbey miniatures : a catalogue raisonné. By R. W. Goulding. 4to. Oxford, 1916.

From the Halifax Antiquarian Society :—Papers, reports, &c. Vols. 1-12. 8vo. Halifax, 1902-1915.

From the Author :—The press and printers of Jamaica prior to 1820. By Frank Cundall, F.S.A. 8vo. Worcester, Mass., 1916.

From the Author :—The Dartmoor antiquities and their builders. By H. J. Lowe. 8vo. n.p. 1917.

From the Author :—The townfield of Liverpool, 1207-1807. By R. Stewart-Brown, F.S.A. 8vo. Edinburgh, 1916.

From the Author :—The low side windows of Worcestershire churches. By F. T. S. Houghton. 8vo. n.p., n.d.

From the Author :—The early water supply of Bath. By Rev. C. W. Shickle, F.S.A. 8vo. Bath, 1917.

From the Author :—Family notes : Quinchant, Quinchant, or Kinchant. By Major-General J. C. Kinchant. 4to. n.p. 1917.

From the Author :—The Bigges of Lenchwick, and their tombs in Norton Church, Evesham. By E. A. B. Barnard, F.S.A. 8vo. n.p. 1917.

From the Author :—L'ancienne coutume de Normandie. Par W. L. de Gruchy. 8vo. St. Hélier. 1881.

From the Author :—The Roman fort at Piercebridge, county Durham.
By Edward Wooler, F.S.A. 8vo. Frome and London, 1917.

From the Transcriber :—The parish registers of Elland, co. York, 1640-1670, and churchwardens' accounts, 1648-1670. Transcribed and indexed by H Ormerod. Privately printed. 8vo. Oxford, 1917.

From the Author, David Murray, Esq., LL.D., F.S.A.:—

1. Bibliography, its scope and methods. 4to. (Glasgow, 1917.
2. Some letters of Robert Foulis. 4to. Glasgow, 1917.

From Harold Sands, Esq., F.S.A.:

1. The Tower of London, described by Arthur Poyser, painted by John Fulleylove, R.I. 8vo. London, 1908.
2. Vestiges of old London. By John Wykeham Archer. fol. London, 1851.

From C. W. Dyson Perrins, Esq., F.S.A.:—A collection of ballads, proclamations, broadsides, &c., mounted in four large folio volumes.

From the Author :—The ancient earthworks of the New Forest. By Heywood Sumner, F.S.A. 8vo. London, 1917.

A special vote of thanks was passed to C. W. Dyson Perrins, Esq., for his present of a collection of broadsides.

Albert Victor Peatling, Esq., was admitted a Fellow.

HAMON LE STRANGE, Esq., F.S.A., contributed a paper on the Hunstanton Household Accounts for 1347-8, which will be printed in *Archæologia*.

Mr. PAGE was obliged for the paper, which whetted the appetite for more: the printing of the whole series of Hunstanton Accounts would add much to one's knowledge of social and economic history. He noted the mention of cotton, which was early even for use as candle-wicks; and there were other interesting points of the kind in the paper. The Society would do well to set about the publication of a series of accounts.

Mr. C. L. KINGSFORD had come across some accounts thirty years later relating to Edmund de Stonor, then sheriff of Oxfordshire. It covered ten weeks from 20th June 1378, for which the bill amounted to £7 9s. 8d., giving an average of 14s. 11½d. a week, but as a matter of fact the bulk of the expense was incurred during three weeks, when the judges and other visitors were being entertained. The bills for these weeks came to 21s. 11d., 10s. 1d., and £4 14s. 8½d. respectively, the average for the remaining seven weeks being 3s. 9½d. Samples of the expenditure were as follows:

21 July. 4 Judges. Bread 9d., beer from store, meat 2s. 7½d., 2 geese 6d., 5 capons 1s. 8d., 9 pullets 11½d., 4 gallons of wine 3s. 4d.,

horse bread 1*d.*, & a bed hired for a servant 1*d.*, pepper, saffron & ginger 5*d.*

5 Aug. Judges. Bread from store. 1 quarter of good ale 2*s.*, beef & mutton 5*s.* 1*d.*, 8 capons 3*s.* 1½*d.*, 4 geese 15*d.*, 4 porkers 2*s.* 8*d.*, salt 4*d.*, horse bread 6*d.*, various spices 10*s.* 6½*d.*, 23 gallons and 1 quart of wine 16*s.* 3½*d.* Expenses of J. de Kentwood 12*s.* 6*d.*, barber 6*d.* To the men of the prior of St. Frideswide, & of Edmund Giffard for bringing swans 5*s.* 4*d.*, milk for furmenty 4*d.*, pullets & pigeons 1*s.* 6*d.*

Mr. GIUSEPPI regretted the absence of the author, with whom he had been in communication regarding the paper. The Society was much indebted to those who brought forward such documents, especially when the originals were practically inaccessible to students. The present account was best compared with those of Bogo de Clare and Joan, Countess of Pembroke, which were printed in 1862 by the British Archaeological Association (vol. xviii, pp. 66, 145, 213, 318) under the editorship of Mr. Hartshorne. The items proved that the fare was plain, game rarely enjoyed, but plenty of poultry and fish. The author had declared himself puzzled by the term *atam* (*attam*), which might be for *attaminatus*, meaning opened or broached like kippers. The horses did not get the variety of foods mentioned in the Clare accounts, such as a feed of oats, and occasionally hay. The word *pinguedo* used in this connexion meant some kind of ointment.

Mr. BRANDT inquired the difference of money value between that date and the present. A little book on fowling in his possession, dated 1655, mentioned only the line and net, and no shooting.

Mr. BAILDON had been, at the outbreak of war, engaged on the rolls of the Abbey of Ely, the cellarer's accounts going back still earlier than those before the meeting. He found difficulties in identifying some of the fish. The Society might go even farther than Mr. Page had suggested, and some energetic Fellow might produce a *Dictionary of the Table* on the same lines as the *Draper's Dictionary*. He suggested that where horses were mentioned, the second word was the animal's name; and doubted the conclusions drawn as to the scarcity of game. The roll contained merely expenditure accounts, and if the lord and his friends went hawking, their bag would not appear in the accounts. The same would apply to fish caught in the moat. Silence on that point did not prove that game was not consumed, and in the Ely accounts only what was paid for appeared.

Mr. G. BUCKSTON BROWNE noted one point of interest in days of diet restriction. There was a general feeling that sugar was

absolutely necessary, and great efforts had been required to ration it; but it had occurred to few that sugar was unknown to the Norman inhabitants of England.

MR. HARDY remarked on the early age at which one of the ladies mentioned became a mother, but the extraordinary youthfulness of mothers in the upper classes of medieval society had often been noticed. He endorsed all that had been said as to the desirability of publishing a series of such accounts, which would be very valuable as illustrating the domestic life and manners of past ages.

The SECRETARY quoted the *Promptorium Parvulorum* to show that the *razor* was a fish: an early edition of Pliny (1601) mentioned a fish so-called because anything that touched it 'senteth of iron'.

The CHAIRMAN remarked that the fascinating account of Mr. Hamon le Strange's forbears had provoked an interesting discussion, and was himself disposed to agree with Mr. Baildon. He joined heartily in regretting the author's absence, and expressed the meeting's indebtedness to Mr. Peers for reading the paper. The author had always seemed to him the embodiment of human archaeology, as the lineal descendant of those who had occupied the same place through five or six centuries. The Society would approve the scheme for printing in full a series of such household accounts, which were of manifold interest, and had a bearing on modern food-control. People of the highest standing were shown to have been content with the simplest viands. In thanking the author he could only express the hope that their way of life would be further illustrated on some future occasion.

M. E. HUGHES-HUGHES, Esq., F.S.A., read the following notes on the fountain at Leez Priory:

My only reason, in fact I might say my only excuse, for bringing the old fountain in my inner quad to the notice of the Society, is that when we took the entire structure down for repairs which had become essentially necessary, we discovered that the whole of the stones of which it is composed were derived from the church of the thirteenth-century priory, upon the cloister garth of which it stands, and still bear on their internal faces the carved work of the old masons.

Before, however, proceeding to describe the fountain itself I ought, perhaps, to give a very short description of the priory for the benefit of those Fellows who are not acquainted with it.

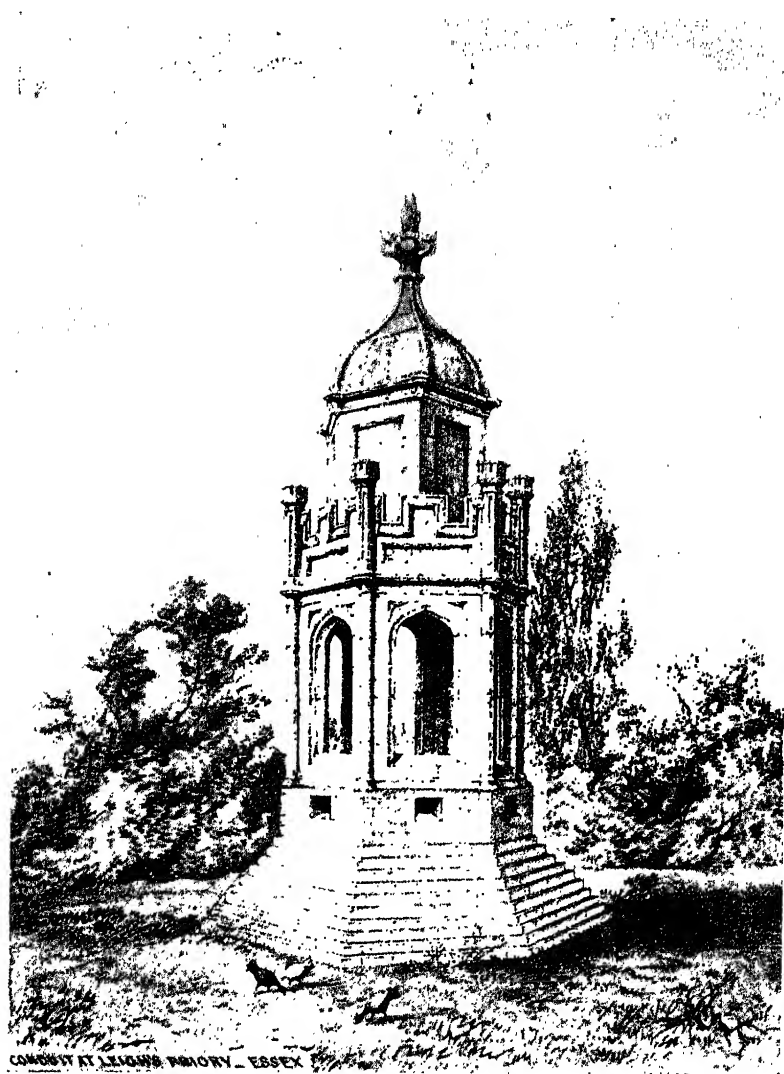


Fig. 1. LEEZ PRIORY: THE FOUNTAIN, c. 1800

At the dissolution of the smaller monasteries in 1536, the post of Chancellor of the Court of Augmentations was held by Richard Rich, then Solicitor-General to the King, but afterwards successively Speaker of the House of Commons and Lord Chancellor.

Among the spoil which fell into his hands at that time was the site of the Augustinian priory at Lee, which he proceeded to demolish, and upon its foundations, which he left in the ground, he shortly afterwards erected the great mansion, which remained in his hands and those of his successors (created earls of Warwick in 1617) for about two hundred years.

The buildings were all of brick, but he utilized the stones from the priory in facing his own buildings, and in the middle of his inner paved court, which corresponded exactly with the cloister garth of the priory, he caused to be erected the small stone fountain which forms the subject of my short paper this evening.

The whole estate, which contained some 1,600 acres of park land, was acquired (for the sum of £40,000) in 1753 by the Trustees of Guy's Hospital, who pulled down all the chief buildings, leaving only such parts as could be utilized for farm buildings, but they fortunately spared the tower gateway connecting the two quads, and the fountain.

These had fallen into sad decay, but have now been substantially restored under the direction of Mr. Wykeham Chancellor, F.R.I.B.A. For a detailed account of the priory, and of Lord Rich's mansion, I would refer my brother Fellows to the able and exhaustive paper by Mr. A. W. Clapham, F.S.A., read before the Essex Archaeological Society at their meeting at the priory on 26th June 1913, and subsequently published in the thirteenth volume, new series, of that Society's *Transactions*.

The fountain, standing in the centre of the inner quadrangle, has a total height of about 17 ft., the diameter over all being 5 ft. It is hexagonal on plan, and is divided into four stages. The lower stage, forming the base or stylobate, is of brickwork, arranged in a series of small steps or footings.

When the restoration of the structure was taken in hand, it was found necessary to rebuild these footings, as the original had been very much damaged and broken away, a fact largely due to the rough farm uses to which the old buildings and premises had for so many years been subjected; but a clear idea of the former brick base was forthcoming in an old coloured print, dating from the early part of the last century, the artist having evidently made a sketch on the spot, as evidenced by the accuracy of the drawing with regard to existing portions of the structure (fig. 1). Upon this stepped base stands an hexagonal core of

brickwork faced with stone, and forming, as it were, a pedestal for the main design. At the angles of this hexagonal pedestal are small engaged shafts, having moulded capitals and bases, the mouldings in both cases being continued round.

In each of the six faces of the pedestal are small oblong openings, with sharply-splayed sills, measuring 10 in. by 6 in.

It is not unlikely that at one time these openings were lined with lead, and formed exits for the water which collected in the interior well or basin of the fountain.

The second or main stage of the design consists of a series of six open Tudor arches, measuring 2 ft. 3 in. from sill to springing, and having a width of 12 in.; the outer edges of the arches are boldly chamfered, and the sills splayed. Shafts of similar character to those beneath are carried up the angles, while the spandrils of the openings are relieved with small sunk eyes. The space enclosed by this arcade originally formed the basin of the fountain, the roof or soffit above it being groined and richly decorated with half tracery and a pendant in the centre. It should be explained here that, in the restoration of the fountain, it was not deemed expedient to construct anything in the nature of a basin or receptacle for water, as there was no evidence to show what form the original basin took; the floor of the space enclosed by the arcade was therefore kept flat, a slight fall from the centre outward to the small openings being sufficient to carry off any water which may find its way in. Immediately above this arcade is an effective and well-designed panelled and battlemented parapet, the angles of which are enriched with crenelated pinnacles, each pinnacle being panelled on three of its faces. The third stage, rising behind the battlements, maintains the hexagonal plan, and has plain sunk panels worked on each face. The whole is surmounted by an ogree-shaped canopy, terminating with a Gothic foliated finial.

In order to give effect to the whole design, the space immediately surrounding the fountain has been roughly paved with stone, the paving following the hexagonal plan.

The whole of this interesting little work was originally executed in 'clunch' stone, the bulk of which was obtained from the old priory buildings. When taken apart, it was found that the panelled parapet, with the battlements and lower portions or stoolings of the angle pinnacles, had been worked out of the massive stones forming the capitals of the responds of the piers which once supported the tower of the priory church; portions of the mouldings of these capitals still remain *in situ* on the backs of several of these stones, where they have escaped the chisel of the Tudor mason.

From time to time, considerable speculation has arisen with



Fig. 2. LEEZ PRIORY : THE FOUNTAIN BEFORE REPAIR

regard to the water supply to the fountain, and although careful investigations were made at the time of the restoration, no conclusive evidence on the subject was forthcoming. But it is known that the source of the supply was—as indeed it is at the present time—a well situate in the meadows on the south side, which delivers the water by gravitation, and it is reasonable to presume that the fountain was also fed from this source. This well is distant from the mansion about 360 yds., and in Lord Rich's time there was a series of small ponds between the well and the buildings, the water flowing from the well to each pond in succession. From levels recently taken, it was found that the top of the water in the well is 23 ft. above the small apertures in the lower part of the fountain; the last of the ponds is some 200 yds. distant, and, as this would give a fall of some 12 ft. or 14 ft., it would appear highly probable that there was a direct supply to the fountain from this last pond. The means of conveyance was presumably lead piping similar to the sample on exhibition here this evening.

The water would rise in a powerful jet in the centre of or over the basin within the fountain, and from thence would flow through the openings previously alluded to.

It has been suggested that these openings were probably lined with lead, the lead being fashioned in the form of troughs or shoots and projected sufficiently far to clear the base. Surrounding the base there would probably have been a cement-lined tank some 3 ft. or 4 ft. wide, with a stone kerb round the edge. From this tank a waste-pipe was taken to a circular pond some little distance away.

During the excavations some 60 ft. to 70 ft. run of this lead waste was unearthed. The piping, which is of cast lead, measures 1 in. in diameter internally, and is most substantially made, the lead being fully $\frac{1}{4}$ in. in thickness. It appears to have been cast in lengths in a mould with a clay core.

There are two methods adopted for joining these lengths, the first being by means of a 'wiped' joint, such as is in vogue among plumbers of the present day, but with this exception: in addition to the joint being 'wiped', it was made additionally secure by passing an iron, which was shaped somewhat like a soldering 'bit', longitudinally along the joint all round, giving the joint a streaky appearance. The object of this operation was to negative the effects of minute flaws, in the shape of air-bubbles, which have a tendency to form in the solder of the joint. The practice of using an iron in the manner described appears to have been common among plumbers of sixty or seventy years ago, but nowadays a joint treated in this way is rarely seen, owing partly to the improved methods adopted in the manufacture of solder,

and also to the somewhat untidy appearance such a joint presents.

The second method of joining two lengths of pipe was by means of a 'cast' joint. The ends of the two lengths to be joined were cut fair, cleaned, and butted together; a clay mould was then formed round the junction and the molten metal poured in, the resultant joint being similar to the example produced; it was somewhat wasteful of metal, but the joint was a sound one. The advantage of this joint is that the bore of the pipe remains perfect, and offers no obstruction to the flow of the water, which would not be the case in a joint where the two pipes are spigotted, the one into the other.

I wish to add that I am indebted for nearly the whole of the description of the fountain to my friend Mr. Chancellor.

Mr. NORMAN had lately received a piece of lead piping from Hampton Court which had an imitation of the lap-joint, which survived even when the pipe was produced by casting.

Mr. CHANCELLOR had learnt some of the mysteries of the craft from an old foreman plumber in the employ of Messrs. Farmiloe. At first that expert had pronounced the specimen a seam-joint, but on further examination declared in favour of a casting. He was assured that old-fashioned plumbers still seamed the wiped joint in order to bring out the small air-bubbles, as the joint was apt to sweat. Passing the iron down the joint had the effect of bringing the tin to the surface; and Tudor plumbers seem to have practised that trick of the trade by subsequent seaming of the wiped joint.

Mr. W. H. Fox said that a similar fountain had supplied the Priory of Wymondley, Herts., and melted lead had been found there *in situ*, so the work had probably been carried out there.

Mr. DRUCE mentioned that the conduit at Combe spring, which supplied water to Hampton Court, was intact on Coombe Hill: it dated from Wolsey's time and could still be inspected.

Mr. JOHNSTON compared such fountains with the monastic lavatories of which remains existed at Durham and Much Wenlock. There was an elaborate water-system at Canterbury. Excavators had sometimes neglected such indications, and he had hopes of making such a discovery during a proposed excavation at an Essex priory.

The CHAIRMAN congratulated the author on the possession of such an interesting structure, and on the admirable views of it

thrown on the screen. The method employed in the case of one specimen of lead piping exhibited was evidently intended to expel air-bubbles, and in each case the process was clear. What appeared to be a seam was simply due to the junction of two sides of the mould.

Thanks were ordered to be returned for these communications.

THURSDAY, 29th NOVEMBER 1917.

Lieut.-Colonel GEORGE BABINGTON CROFT LYONS,
Vice-President, in the Chair.

The following gifts were announced, and thanks for the same ordered to be returned to the donors :

From the Author :—Catalogue of finger rings brought together by F. A. Harman Oates, F.S.A. Privately printed. 8vo. 1917.

From the Author :—The separation of the churches and the state in France. By W. H. H. Stowell. 8vo. Amherst, Mass. 1917.

From the Author :—Images of kings in the cathedral church of Salisbury. By Sir William H. St. John Hope. 8vo.

From the Author :—Llanthony Prima. By Ittyd. 8vo. n.p. 1915.

From the late Worthington G. Smith, through Reginald A. Smith, Esq., F.S.A. :—

1. Map of Dunstable and neighbourhood, showing old roads, discoveries of antiquities, &c.
2. Drawing of skeleton of woman and child found in an interment on Dunstable Downs.

Edward Tristram, Esq., F.S.A., was appointed a Local Secretary of the Society for Derbyshire.

Major Roland Moffat Perowne Willoughby was admitted a Fellow.

The Rev. C. SWYNNERTON, F.S.A., read a paper on the Priory of Leonard Stanley, Gloucestershire, in the light of recent discoveries, which will be printed in *Archaeologia*.

Sir WILLIAM HOPE had, on a visit to the site, expressed the opinion that excavations would reveal an apse of Saxon date, but could not explain the relation of that building to the larger church. It occupied an awkward position with regard to the

cloister, and its survival was as difficult to explain as its original purpose. The priory had been a small and remote house; but it would be a thousand pities if nothing were done to prevent the ruin of the chapel. The discoveries in the larger church had been what one would expect, and its interesting features had been described by Middleton.

The CHAIRMAN expressed the indebtedness of the Society for the paper, which described the two churches in great detail. He was specially struck with one of the capitals, showing three figures holding a scroll; and had never seen such a representation of the Trinity except in manuscripts, and even there the treatment was somewhat different. Other curious renderings of the same subject were to be seen abroad, but not in England.

Thanks were ordered to be returned for this communication.

THURSDAY, 6th DECEMBER 1917.

Sir ARTHUR JOHN EVANS, Knt., D.Litt., F.R.S.,
President, in the Chair.

The following gifts were announced, and thanks for the same ordered to be returned to the donors:

From the Author:—Some correspondence of the Maudes of Hollinghall, 1594–9; and the Maudes of Ilkley, Hollinghall, Brandon, Helthwaite Hill, &c. By W. Paley Baildon, F.S.A. 8vo. n.p., n.d.

From the Rt. Hon. Earl Beauchamp, K.G., through C. L. Kingsford, Esq., F.S.A.:—Casts of (1) seal of Richard de Clare, Earl of Gloucester and Hertford, 1222–62, from a charter to Tewkesbury Abbey, and (2) seal of Bailiffs of Worcester, from a deed dated 1485.

Notice was given of a ballot for the election of Fellows to be held on Thursday, 17th January 1918, and a list of the candidates to be put to the ballot was read.

Sir THOMAS GRAHAM JACKSON, Bart., R.A., F.S.A., read a paper on the churches of Serbia.

Serbian architecture really begins with Stephen Nemanja, who became king in 1166, the first of a dynasty which ended 200 years later with Urosh, son of the great Tsar Stephen Dushan. In 1389 the Serbians under Lazar were fatally defeated at

Kosovo by the Turks, and could only maintain a doubtful independence under despots or Turkish governors. Finally, in 1459, under Mahomet II, Serbia became a Turkish province.

Serbian churches have been divided into three groups. The first includes the churches built by Stephen Nemanja and his immediate successors at Kursumlija, Sopochni, Studenitza, Zhitcha, and elsewhere.

The second contains the fourteenth-century churches of Gratchanitza, Nagoritcha, Pavlitza, the king's chapel at Studenitza, and the rather abnormal church at Déchani. This group is associated with the names of King Stephen Urosh, surnamed Miljutin, and his queen.

The third group, erected at the end of the Serbian kingdom by Lazar and the despots, is in the northern district: Ravanitza, Pavlitza, Manasija, Krushevatz, Kalenitch, Ljubostinje, and Semendria.

The first group of churches, though possessing certain Eastern features, show the Dalmatian influence and are more Romanesque than Byzantine. Studenitza has arcaded cornices and in the east wall of the apse a three-light window surrounded by an arch with scroll-work, very like a window similarly placed in the Romanesque Duomo of Cattaro. Its doorways, and also those of Sopochni, have receding orders and shafted jambs, and the west doorway of Studenitza has figure sculpture in the tympanum (our Lord between adoring angels), a most unusual feature in a church of the Greek rite, where figure sculpture is not generally admitted. The interior of the church, however, seems purely Byzantine, with its barrel-vaults and lantern dome.

At Kursumlija and at Hilendar on Mount Athos occurs the Byzantine feature of a three-light window in which only the middle light has a semicircular head, while the two side lights have quadrant arches abutting against the mullion.

The church of Hilendar was founded in 1196 by Stephen Nemanja, and, in contrast to Studenitza, seems to have no trace of Western Romanesque. Its situation on Mount Athos, where the spirit of the place is wholly oriental, is doubtless a determining factor. The plan shows an eastern apse, a central dome carried on four pillars, apsidal transepts, and a large narthex of two bays with domes. To the west is an ante-church or pro-naos of two bays with three aisles, a curious feature found in most of these Serbian churches. It seems in every case to be an addition to the original plan, and its use is hard to understand, as it communicates with the rest of the church only by the western doorway of the narthex.

The use of brick arches and cornices, and bands of brickwork in the masonry, is here first found in Serbia, and was destined to

become one of the most distinctive features of the native architecture. A curious detail at Studenitzza, certainly of Italian origin, is the eccentricity of the arch stones, the extrados being struck from a longer radius than the intrados, so that the order as it rises becomes wider.

Zhitcha was the coronation church of Serbia, and the archiepiscopal residence of St. Saba; it was surrounded by a wall with seven doorways in it, one of which was opened for each coronation, and walled up immediately afterwards. It has a large pro-naos with a lofty western tower, whose two-light windows divided by a colonnette have a very Italian look. The church has been much repaired in modern times, having been in ruins at the beginning of the nineteenth century.

Arilje, though Byzantine in plan, has the Lombard arcaded cornice and pilaster strips and shallow blank arcading. It was built between 1272 and 1275, and a large pro-naos has been added to the west of its narthex.

Gradatz, founded c. 1300 by Helen, queen of Stephen Urosh, has a church showing the same mixture of influences. The doorway in the west front of the pro-naos is imitated from French work, but unintelligently, since its outer order and the shafts carrying it are in relief on the face of the wall. Such a motive occurs in Italian Gothic, but never in the more logical French or English work. The church has external buttresses, a Gothic and not a Byzantine feature. It is worthy of note that Queen Helen, the foundress, was a French princess.

St. Klimentije at Ochrida, built in 1379, is oriental in character, and marks the beginning of a more distinctive national style. A new form of decoration appears in the arrangement of the long thin bricks of which the church is built into fancy patterns with their edges outwards. This type of ornament is of course not a Serbian invention, for it occurs, for example, at Salonika in the church of St. Elias and the Apostles' church (the Souk-Su Djami).

A very remarkable fourteenth-century church is that of Gratchanitzza, built about 1321 by King Urosh Miljutin. The plan is unusual. M. Bals says that the exo-narthex ranges round three sides, the result being a double range of vaults, the inner being the higher, and forming in the outside view stories of arcades with a rather bewildering effect. At the west end is a pro-naos at a lower level. The walls seem to be of squared masonry with brick in the beds and joints, and brick is used in the arches and window casings. The general result is imposing, and the pile of arch above arch mingled with a multitude of domes is romantic and surprising to a Western eye. The church at Déchani, as already said, is abnormal for its date. It was

founded about 1330 by King Stephen Urosh, and though Eastern in plan with a central tower-dome, follows the Dalmatian Romanesque in its architectural features. It has arcaded cornices at the eaves and on the gables; its walls are banded with white and pink marble; the doors and windows have receding orders with voussoirs treated as at Studenitza, and the outer order of the doorways is planted on the face of the wall as at Gradatz. There are foliate capitals and spirally twisted arch-mouldings, and one doorway has figure-sculpture in the tympanum quite in the Western manner. The plan shows five naves ending eastward in apses, and there is a pro-naos of three bays.

The third group of Serbian churches begins with Ravanitza, founded in 1387 by King Lazar, who fell at Kosovo in 1389. These churches have a trilobal plan, that is to say they have apsidal ends to the transepts as well as at the east end. It has been suggested that this group was inspired from Armenia or Georgia, and there was doubtless an influx of Armenians into the Eastern Empire when an Armenian sat on the throne of Constantinople. But an examination of Armenian architecture does not produce much support for such a view, and the style may well be a native development. An architect named Borovitch, who was no doubt a Serb, is said to have designed several of these buildings. They are 'four-pillar' churches with a central dome and transepts, and show externally a development of the decorative brickwork already noticed. The apses are polygonal outside, with angle-shafts often spirally fluted, and the windows and doorways are enclosed in sculptured borders and architrave. In the window tracery the trefoiled head of Gothic architecture sometimes occurs, and even traceried rose-windows are to be found.

Ravanitza is typical of the group: it has a central dome surrounded by smaller tower domes, and is barrel-vaulted four ways in a cross plan. The exterior is richly decorated with arcading, twisted colonnettes, architraves and friezes carved with fretwork, carved borders to doors and windows, traceried rose-windows, and geometrical patterns in brick.

Lazaritza in Krushevatz is a trilobal church without aisles, and has a novel and not very successful feature in a tower-dome over the narthex rivalling in importance the central tower-dome. Another novelty is the use of niches finished at the head with semi-domes, as in the churches of St. Theodore, St. Theodosia, and St. Thekla at Constantinople. The south door is divided into two by a shaft, and each opening finishes at the head with a Gothic trefoil of which the point is ogeed. At Ljubostinje, founded in 1394 by King Lazar's widow, and designed by Rade

Borovitch, whose name is carved on the threshold of the nave, all the windows have Gothic trefoiled heads, but the ornament has no affinity with Western work, being rather Saracenic in character. It is evident that the country must have preserved a considerable degree of independence to have been able to build so important a church five years after Kosovo, and indeed the church of Manasija, begun in 1418, shows no falling off, but on the contrary is even superior in finish to some of its predecessors. It is trilobal with five domes, built of good fair masonry without any brickwork, and has arcaded cornices, and the whole is enclosed within a mighty wall with many towers.

Kalenitch, built in 1427 by the despot Stephen, son of Lazar, has, like Lazaritza, a western tower, but subordinate to the central tower-dome. Its ornamental details are curiously mixed in style, and show a great falling off in technical skill from the earlier work in Serbia, such as Studenitza. But while the sculptors did not progress, it was otherwise with the Serbian painters, whose work as left in the churches is not unworthy of comparison with their Italian contemporaries. It is an interesting speculation to consider what might have been the development of Serbian art if there had been no Turkish Conquest. Unfortunately the geographical situation of the Balkan countries makes them a natural battle-ground, even to the present day, but it must be hoped that there is a more peaceful and prosperous future in store, when Serbia may take up her interrupted development and produce work worthy of so gallant and indomitable a nation.

Mr. BERRY claimed no architectural knowledge, but had paid more than one visit to Serbia, where he had seen a good many churches. Their description had been of much interest, and much more remained to be seen in Serbia by those who were ready to penetrate beyond the railways. Apart from Belgrade and Nish, most of the churches were barely accessible, standing in remote mountain valleys. Many points deserved further study, for example the frescoes, which had never been treated in detail; and it was curious to find coloured and banded brickwork employed at widely different dates. Another architectural peculiarity was the use of shaped bricks or tiles round the windows. There were chalices, vestments, and other objects of archaeological interest among the church furniture; and a great contrast was seen between the golden period of the Serbian kingdom and the succeeding five centuries of Turkish domination. Apart from a few portraits, there were no artistic remains of the later centuries.

Mr. E. PRIOLEAU WARREN had lately returned from Serbian Macedonia, where he had been in close contact with the Serbians, and had heard from an engineer that the vaulting of some old buildings in the country was of pumice-stone. On being shown a piece of pumice his informant had recognized the material.

Mr. HERBERT stated that the representation of Christ ascending the cross by a ladder occurred in two Italian miniatures of the early fourteenth century: one was in the British Museum, the other in the collection of Mr. Yates Thompson.

The PRESIDENT congratulated the Society on having had from the hands of a master such an interesting statement of the history and salient features of Serbian architecture. Sir Thomas Jackson, from his intimate personal knowledge of Dalmatian and Italian architecture, was specially qualified to trace the Western influence on the buildings of the Serbian interior. He could not quite follow Sir Thomas in his view that the coast cities of Dalmatia at the time when that influence was at its height were populated by a preponderant Romance population. On the contrary, the mass of the citizens, even in places of North Dalmatia such as Traù, were Serbo-Croatian. Croat was the church language in that city in the eleventh and twelfth centuries. At Ragusa, whose influence on the Balkan interior had been greatest, the population from the earliest days of its history had been Slav-speaking. In spite of the later Venetian façade in a large part of the littoral, the root fact with which they had to deal was the assimilation of Italian culture by a coast population which still remained fundamentally Slav.

In considering the source of the Western influence on the earlier group of Serbian churches, such as Studenitza, the Lombard features visible, such as the columns resting on lions and other details, might be preferably regarded as having made their way in by the March of Friuli, and some of these features indeed were shared by Hungarian architecture which was certainly influenced from that side by way of the Save valley.

The President was himself personally acquainted with a large number of the churches described, including the early Serbian monastic foundation at Chilendari on Mount Athos. Nothing could give one a better impression of the magnificence of the great days of the medieval kingdom and empire of Serbia than some of these buildings. He was particularly struck by the remains of the church of Ljubiten looking down on the imperial city of Skoplje (Uskup). When he saw it the fine fresco figures of Tsar Dušan, his consort Helena, and his son Urosh were still preserved with accompanying impressions. In the case of these

and other frescoes he had noted the close connexion with the style of Byzantine examples of the Comnenian epoch on the Macedonian side, which extended to minute details of decoration such as the foliated scrolls round the figures. Another splendid monument was the church of Déchan in what were now the North Albanian Alps. An inscription within it, which he had seen, recorded its building by the master mason of Cattaro in Dalmatia for King Urosh Miljutin early in the fourteenth century. It was a remarkable blending of Dalmato-Italian features with orthodox Serb traditions. The vision of this church rising from the solitary glen with its alternating bands of black and white marble and rosy quartz could never be forgotten. In the neighbouring church of the Bogoroditsa (Theotokos) in Péch (Ipek) exquisite foliate capitals were seen in the windows. On the question of the general absence of sculptured figures in the churches of the old Serbian interior, he had seen in a church near Kastorea in Macedonia a very beautiful marble seated statue of the Virgin and Child in a Byzantine style which might well compare with contemporary Italian works.

Attention was called to the importance of the latest group of Serbian churches, such as Manassia, Ljubostinje, and Ravanitza, as showing that the national architecture continued to advance during the period after the battle of Kosovo in 1389, which was popularly supposed to have sealed the nation's doom. That was far from the truth. Whatever the ultimate effects of Kosovo in checking greater efforts at unity, the successors of Knyaz Lazar, who fell there, remained great and powerful princes. Moreover they were possessed of great wealth from the fact that they still held possession of the great silver- and gold-mining centres of the Peninsula, which largely supplied Italy and Hungary with precious ore. The real death-blow to a strong independent Serb state in the Balkans was the fall of these, especially of the chief centre of the industry, the great fortified city of Novobrd, in 1450. The deportation by the Sultan five years later of the mining population to help to supply the depleted population of Constantinople completed the ruin. To-day these sites, which the President had had occasion to visit, were for the most part brushwood-covered heaps of scoriae and slag.

Nor did the living tradition of Serbian national art cease with the magnificent group of buildings due to the later despots. Even under Turkish rule something of the old spirit lived on in the minor arts of embroidery, jewellery, and indeed in metal-work generally. The highly decorative ecclesiastical vessels from the monastery of Savina, which he had seen, and of which Sir Thomas Jackson had shown a slide, might have been

the work of silversmiths of the thirteenth century : they were actually of the seventeenth.

Sir THOMAS JACKSON, in reply, admitted that those who had visited the country had an advantage over himself, the paper being based on second-hand information and on photographs supplied by Serbian friends. Among the surviving minor arts of the Serbs might be mentioned metal-work of traditional forms, as at Ragusa and Cetinje. He could not answer the question as to pumice-stone, but observed that the vaulting was chiefly of barrel-form, and nowhere was there any approach to cross-vaulting. Serbia constituted a large new field for research in more than one direction.

Thanks were ordered to be returned for this communication.

THURSDAY, 13th DECEMBER 1917.

Sir ARTHUR JOHN EVANS, Knt., D.Litt., F.R.S.,
President, in the Chair.

The following gifts were announced, and thanks for the same ordered to be returned to the donors :

From the Harvard University Press :—

1. Harvard Historical Studies, Nos. 3, 8, 13, 14, 20.
2. Harvard Studies in Classical Philology, vols. 1-27.

From the Author :—The new building of Wyberton church, Lincs., in 1419-20. By Sir W. St. John Hope, Litt.D., D.C.L. 8vo. Horn-castle. n.d.

Notice was again given of the ballot for the election of Fellows to be held on 17th January 1918, and the list of candidates to be put to the ballot was read.

Professor F. J. HAVERFIELD, M.A., LL.D., F.S.A., read a paper on Roman Cirencester, which will be printed in *Archaeologia*.

Sir WILLIAM HOPE had assisted Mr. Cripps about twenty years ago in investigating the basilica, of which he regretted no slide was shown. The plan published in *Proceedings*, xvii, 206 showed an adjacent building that was no doubt part of the forum, where

it might be expected. Trenching had revealed more than one transverse street with houses between, but there had been no time to make a complete plan. There were great opportunities of making an extensive exploration of the site, there being much open ground on the other side; local jealousies rather than funds would be the difficulty. With the late Mr. Fox he had seen the Barton pavement with its cat-like animals, and only regretted that a drawing had not been made there and then by that accomplished draughtsman. It was painful to think of the wonderful capital mentioned in the paper being kept out of doors.

Mr. MILL STEPHENSON referred to the sculpture of a Roman horseman trampling on a barbarian. The former wore something on his left arm that resembled the inside of a small shield or buckler commonly carried by horsemen. He emphasized the desirability of putting the carved capital under cover, and agreed that Cirencester, like Silchester, was evidently not a military station.

Mr. HOPKINSON had lived at Cirencester for many years, and had personal friends at the Abbey to whom he would make representations with regard to the capital. The basilica was at the end of the garden of Watermere House, and beyond a parsley bed were remains of a pavement suggesting more houses in that direction. Mr. Sewell, a local lawyer, had among other coins three gold pieces, one of which was an ancient forgery. The Saxon soldier found at The Barton, Lord Bathurst's agent's house, was popularly believed to have been a Roman. In the gravel at the back of Barton ponds coins had been found after heavy rain.

The PRESIDENT welcomed Professor Haverfield after a long absence due to illness. Cirencester was the second largest Roman town in Britain, and was of special interest to himself as being within easy reach of Oxford. The capital he thought one of the most interesting pieces of sculpture in the country, but the subjects presented some difficulties. That with the double axe and vine represented a Thracian king who cut down the vine of Bacchus. The town, it would seem, had been laid out in *insulae*, and was evidently an important centre. The *signum* raised by the *rector* of Britannia Prima was a remarkable monument, and he had often thought that the boundary of that province had been connected with the Fosseway. He was strongly of opinion that some of the existing names showed what the Roman settlements called themselves, and the neighbouring river Coine suggested

a *colonia*. The abandonment of the ordinary metre in favour of the accentual on the *signum* might have been due to Gaulish influence. Chedworth, which like Windsor lay off the main route, was famous for its mosaics, but also had an octagonal piscina, still used for spring-water, an engraving of the Christian monogram, and a cross-fragment dating from the time when the valley was occupied by Romano-British Christians. He was glad to convey the thanks of the Society to the author for his presentation of Roman Cirencester.

Professor HAVERFIELD pointed out in reply that the Society did not possess a slide of the basilica, an oversight that dated back to the time when Sir William Hope was the Assistant Secretary of the Society.

Thanks were ordered to be returned for this communication.

THURSDAY, 17th JANUARY 1918.

Sir CHARLES HERCULES READ, Knt., LL.D., F.B.A.,
Vice-President, in the Chair.

The following gifts were announced, and thanks for the same ordered to be returned to the donors :

From the Author :—The early tin trade and the Isle of Ictis. By Emanuel Green, F.S.A. 8vo. Bath, 1917.

From the Author :—Stallwork in Cheshire, 1915. By F. H. Crossley. 8vo. n.p. 1916.

From the Author :—Notes on the history of Sotheby's. By G. D. Hobson, F.S.A. 8vo. London, 1917.

From Lady Evans :—Hospital of St. Cross, Winchester. 8vo. Winchester, n.d.

From the Author :—Notable trees and old gardens of London. By B. Daydon Jackson, Ph.D. 8vo. London, 1917.

From Harold Sands, Esq., F.S.A. :—The customs of London, otherwise called Arnold's Chronicle. 4to. London, 1811.

Votes of thanks were passed to the editors of *The Builder*, *Country Life*, and *Notes and Queries*, for the gift of their publications during the past year.

This being an evening appointed for the election of Fellows, no papers were read.

The ballot opened at 8.45 p.m., and closed at 9.30 p.m., when the following were declared elected Fellows of the Society.

The Ven. Ernest Harold Pearce, Archdeacon of Westminster.
 William Longman, Esq.
 John Bowyer Buchanan Nichols, Esq.
 Wyatt Wyatt-Paine, Esq.
 Sir Evan Vincent Evans, Knt.
 Frederick Anthony White, Esq.
 Brigadier-General Herbert Conyers Surtees.

THURSDAY, 24th JANUARY 1918.

Sir CHARLES HERCULES READ, Knt., LL.D., F.B.A.,
 Vice-President, in the Chair.

The following gifts were announced, and thanks for the same ordered to be returned to the donors:

From the Public Record Office :—

1. Calendar of Liberate Rolls, Henry III, 1226-40.
2. Calendar of Inquisitions miscellaneous (Chancery), vol. i, 1219-1307; vol. ii, 1307-1349.

From W. J. Hemp, Esq., F.S.A. :—Welsh records in Paris. Edited by T. Matthews. 8vo. Carmarthen, 1910.

From the Author :—London tokens. By William Dale, F.S.A. 8vo. n.p. 1917.

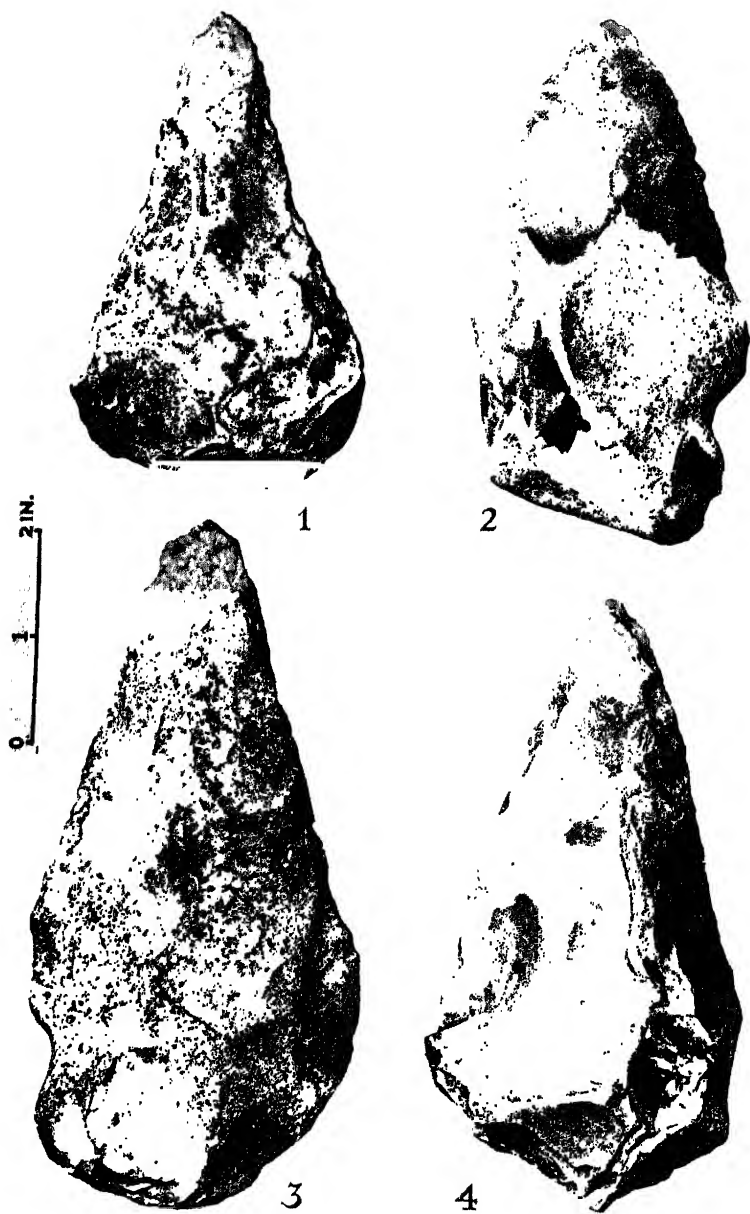
From the Author :—A guide to the Loeb collection of Arretine pottery in the Fogg Museum of Art. By G. H. Chase, Ph.D. 8vo. Cambridge, Mass., 1908.

The following were admitted Fellows:

William Longman, Esq.
 Sir Evan Vincent Evans, Knt.

WILLIAM DALE, Esq., F.S.A., read the following report as Local Secretary for Hampshire:

Although on more than one occasion I have brought before the notice of the Society the gravel beds of the river Test, at



Figs. 1-4. PALAEOLITHS WITH WHITE PATINA FROM DUNBRIDGE

Romsey, their great interest is sufficient reason why I should again return to them. The exigencies of war have, moreover, caused a demand for sand and gravel, and one of the largest pits of the deposit, as well as one of the most interesting, has now been taken over by the Government, and is worked over a large area. Palaeolithic implements are fairly plentiful in it, and I am able to show a selection of typical specimens found quite recently. The work of obtaining them is, however, somewhat difficult, owing to the parochial spirit of several people in Romsey, who, although very imperfectly acquainted with their significance, consider that such objects should not on any account be allowed to leave the neighbourhood.

Near the railway station at Dunbridge the river Test takes a bend. A small tributary stream flowing from the west here joins the Test, and has carved out the valley along which the railway from Salisbury runs. Immediately south of the station the ground rapidly rises some 70 ft. or 80 ft. to a height of 150 ft. above O.D., and it is here the gravel is quarried, the workings extending over a large space at a distance of more than half a mile from the river. In an easterly direction, and nearer the Test, is the Kimbridge pit, which is at a lower level and coincides pretty nearly with the 100 ft. contour line. The sections shown at the two workings are different. The gravel at Kimbridge is highly ferruginous; so much so, that in places masses of flints are cemented together by the deposit of iron. No white implements are found in the pit. On the contrary, they are all deeply ochreous in colour, a good deal waterworn, and large and heavy in character. I am showing two typical specimens, one weighing nearly 4 lb.

The Dunbridge pit appears to show beds of gravel of two periods. Some seven or eight feet from the surface a band of ferruginous deposit extends fairly evenly round the section. The upper surface is gravel of a whiter character than that lower down, and yields plentifully the white implements. As the result of repeated instructions to the workmen, I am able to say that these white implements occur at varying depths, right from the surface to about six feet down. The geologists' interpretation of this upper bed of gravel is that it is an oxidized surface, and that the ferruginous band is made up of the iron carried down from the upper part of the gravel by aqueous action. This, however, does not account satisfactorily for the white tone of the implements, which are not always the colour of the associated subangular flints. Some are bluish in colour, while those really white are much whiter than their surroundings. Others, again, show unmistakable evidence of having been exposed on the surface for a very long period, examples of which will be noticed

(figs. 1 to 6). To me the most puzzling thing is the absolute un-waterworn condition of most of these white implements, which are often so delicate and perfect that they must have been made on

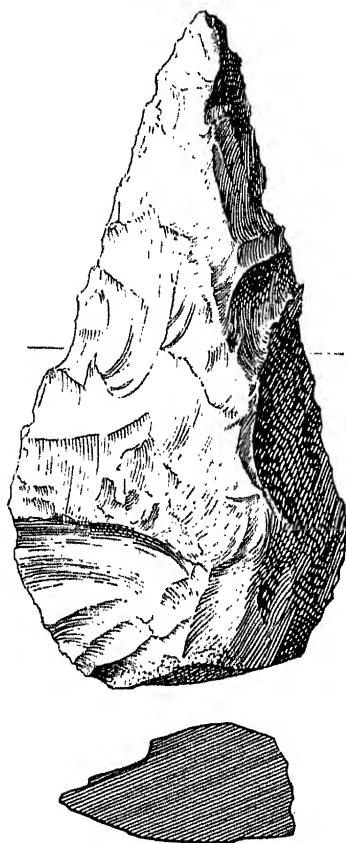


Fig. 5. WHITE HAND-AXE, WITH SECTION ($\frac{1}{2}$).

the spot. I do not draw any conclusions from their forms, although it is quite evident they are of a later character than those of the lower beds. Others more skilled in this study will probably have a word to say on this head. I have in these remarks confined myself entirely to facts which, I hope, may be the means of leading others to some satisfactory conclusion on the somewhat difficult subject of the implements with the white patina.

The brown polished implement was found at Belbin's pit, some three miles south of Dunbridge (fig. 7). Unfortunately, I am unable to state the horizon at which it occurred, save that it was found 'some way down'. It passed through several hands before I heard of it, at an increase in price on each occasion; but when I saw it I was determined to have it at any cost, as it seemed to me of unusual interest and to cause food for reflection. The late Sir Charles Robinson records (*Proceedings*, xv, 73) the discovery of an im-

plement ground to a cutting edge from a depth of twelve feet in the gravels of Lee-on-the-Solent, and I believe a polished implement was among the finds at Grime's Graves. It was urged that the Lee-on-the-Solent implement had 'slipped down' from the surface, and the same may be said of this one from Belbin's gravel pit. I should like you to notice, however, that in form and working it differs from the ordinary neolithic celt, which is usually so well proportioned. In the first place a great deal of the flaking can be seen, and it will be noticed

that the facets are large and bold, and not of the fine character of a celt which was intended to be ground down. The form, too, is exactly that of a well-known type of palaeolith which occurs in this pit (two of which I have placed by the side of it), an implement with one edge fairly straight and the other curved. So exactly is the parallelism maintained that the polished implement is actually twisted in its periphery at exactly the same angle as the palaeolith. If this celt was not made in palaeolithic times it certainly was made by neolithic man out of a palaeolith

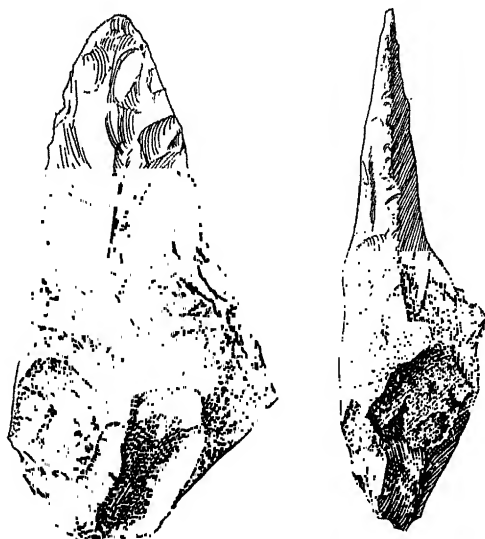


Fig. 6. WHITE HAND-AXE, WITH SIDE VIEW ($\frac{1}{2}$).

he found in these gravels. It is, however, a question whether some day we may not have to qualify the statement that palaeolithic man never under any circumstances polished stone.

The collection of prehistoric objects from Titchfield is a sample of what one collector may do who confines himself to his own immediate neighbourhood. The late Rev. Reginald White, when he first went to Titchfield, was entirely ignorant of such matters; but his interest was aroused by his nearness to the Lee-on-the-Solent gravels, and he was content to place himself under my tuition. I urged him not only to collect from the gravels, but also to teach the workmen in his parish to look for neolithic implements. As a reward, I am possessed to-day of most of his best things, except the palaeoliths, of which I have already more than I know what to do with.

The neighbourhood yielded one hoard of bronze palstaves, nine in number, two of which I show. Amongst the smaller neoliths is a beautiful finger flake (fig. 8), carefully chipped on one side and ground to a sharp cutting edge on the other. The charm of collecting neolithic implements is enhanced by their

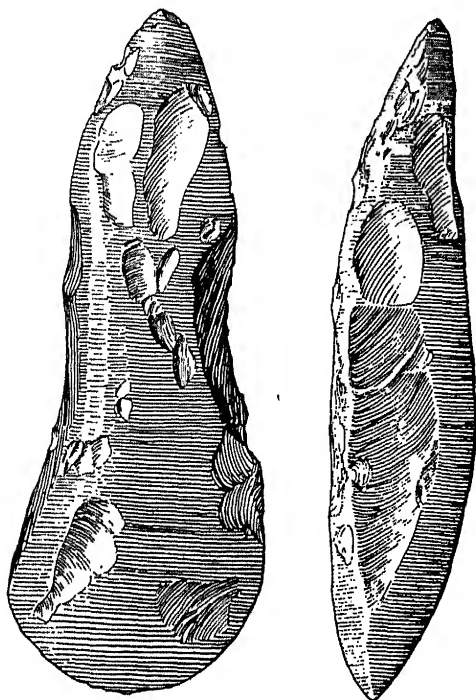


Fig. 7. POLISHED CELT, PATINATED, FROM GRAVEL NEAR DUNBRIDGE ($\frac{1}{2}$).



Fig. 8. FLINT KNIFE, WITH POLISHED EDGE IN SOLID BLACK ($\frac{2}{3}$).

great variety, and I have never before met with a flake the same as this. The polished celts are of the usual type, but amongst them is a small one of greenstone, such as has been found before on the Hampshire coast, and must be regarded as an import from the Continent.

I reserve for special notice the roughly-chipped celts, of which there are seven (figs. 9 and 10). This not very attractive form

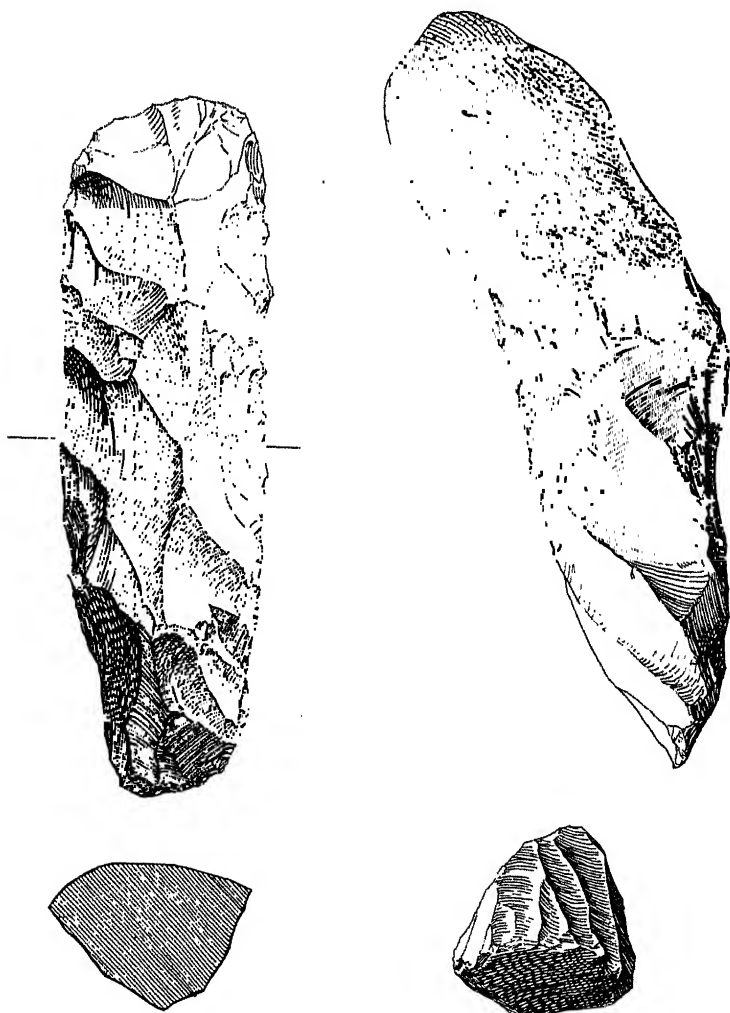


Fig. 9. FLINT PICK,
WITH SECTION ($\frac{1}{2}$).

Fig. 10. IMPLEMENT WITH HANDLE
FLUTED END BELOW ($\frac{1}{2}$).

of implement deserves more study than has been given to it in the past, and I trust before long we may arrive at a definite conclusion as to its age. It has been named by Mr. Reginald Smith the

'Thames pick'. I sometimes wish it had another name, for it is very widely distributed, and not of more common occurrence in the Thames than elsewhere. It occurs in abundance on the Sussex Downs, and our Fellow, Mr. Garraway Rice, has a very fine and well-arranged series, which all interested in the subject should see. My own collection from the Hampshire Downs is also a very large one, and I have placed a few on the table. It will be noticed that these are deeply iron-stained, while those from Titchfield are not, a fact which may add an element of controversy to our discussion this evening. The late Sir John Evans, in his famous work, devotes a chapter to roughly-chipped celts. After commenting on their abundance, he expresses his doubt as to their age, and his words on this head show that he was more in advance of his time than it is customary to regard him. He says: 'It seems almost demonstrable that some at least of these unpolished celts must be among the earliest of the neolithic implements of this country. So far as at present ascertained the practice of sharpening stone tools by grinding was unknown in palaeolithic times, and, assuming the occupation of this country to have been continuous into neolithic times, the transition from one stage of civilization to the other has yet to be traced. Under any circumstances, we have as yet in Britain no means at command for assigning with certainty any of these roughly chipped forms to an antiquity more remote than those of the carefully finished celts with their edges sharpened by grinding, though, in all probability, some of them must date back to a far remoter period.'

In speculating as to the age of this class of implement we must not be guided entirely by the roughness of their execution. The rude flint axes of the builders of Stonehenge were probably contemporaneous with the finelyworked javelin and arrow heads of the neighbouring barrows. The 'Thames pick' is, however, so common and widely distributed, that it is reasonable to suggest that it represents a stage of culture. It does not, in my opinion, find a place in the evolution of the true neolithic celt. In far the larger number of specimens it is of the same width throughout its entire length. Many are fashioned with the express object of being held in the hand, and it is very doubtful if they were ever hafted, a fact which brings them into close relationship with the tools of the Palaeolithic Age. In looking at the Titchfield specimens, I would like you to observe that some are made from gravel flints, which is evidence that when the fabricators lived the gravels of the Solent river were already laid down. Confirmation of this is given by one of them being made of Dorset chert, a substance which could only have

been found in the gravel in question. Although this proves them to be of later date than these implementiferous gravels, it does not bring them with certainty into what we regard as the Neolithic Period.

Mr. REGINALD SMITH had been asked to present additional evidence as to the occurrence of neolithic celts in gravel and as to the date of the so-called 'Thames picks'. His notes of such finds extended over many years, and he was glad of an opportunity of putting them on record. Polished specimens from quaternary deposits were naturally rare and mostly discredited, but as long ago as 1874 M. Reboux, whose collection was preserved in the Carnavalet Museum at Paris, maintained before the International Prehistoric Congress at Stockholm (*Compte rendu*, i, 67) that he and others had repeatedly found them *in situ* round Paris. Capt. Corner knew of several found deep in the gravel of the lower Thames (brought to light by dredging); and the greenstone specimen from Malton, Yorks., deserved better treatment than it had received. Sir John Evans (*Stone Implements*, 2nd ed., 135, fig. 81) stated that it was at first supposed to have been found in undisturbed drift, and continued: 'the gravel, however, in which it was found seems to belong to the series of glacial deposits, and if so, is of considerably greater antiquity than any of the old river gravels in which unpolished implements have been discovered. Like other polished celts it belongs to the neolithic period.' The specimen measured $2\frac{1}{2}$ in. in length, with oval section, and expanded cutting-edge: near the butt the surface had been slightly roughened by being pecked with a sharp pointed tool, to make it fit firmly in a stag's horn socket. Greenstone implements so treated were common in parts of Scandinavia where flint was unprocurable, and were placed at a very early stage in the neolithic period (later shell-mounds and before the dolmens).

Correspondence in *The Times*, 18 Dec. 1867, p. 11; 3 Jan. 1868, p. 8; and 7 Jan. 1868, p. 7, evoked a statement that invalidated the opinion just quoted. In Jewitt's *Reliquary*, vol. viii (1868), 184, two full-sized views of the implement were given, with a section of the pit where it was found in June 1867. The gravel was described by Mr. Charles Monkman as fluviatile, 50 ft. to 60 ft. above the present river. The dark stone was noticed protruding from the light-coloured gravel at a depth of about 9 ft., and was so firmly fixed that a pick-axe had to be used to extract it. It then had an incrustation of lime, which was later washed off. The celt was quite sharp and had not been rolled along with the gravel, but evidently dropped in still water, as there was a thin seam of clay just above it. The correspondence

elicited from Mr. E. T. Stevens a statement as to a similar discovery at Flixton near Manchester: a fine celt, stained and of the usual form, 13 in. long and weighing nearly 3 lb., was dug out at 8 ft. in gravel in a field called the Carrs, near Shaw Hill, April 1846, and passed into the Blackmore Museum at Salisbury (*The Times*, 3 Jan. 1868, p. 8).

Most of the late Sir Charles Robinson's flints from his estate at Lee-on-the-Solent had come into the hands of Mr. Henderson Bishop, and the original labels had been annotated by his son, Dr. Robinson, who displayed something more than scepticism with regard to their provenance. In *Proceedings*, xv, 73, however, Sir Charles insisted on their occurrence in the gravel, with the possible exception of two, one of which was a 'chisel-shaped implement which had been ground to a cutting-edge; it will be noted, however, that there are two others of the same form, which had been chipped into shape only, and not finished by grinding'. The owner was at Lee when the semi-polished implement was found by his farm carter in June 1891, in the gravel pit at a depth of about 12 ft. from the surface: the man had picked it out himself as it projected from the friable perpendicular side of the excavation.

There was a fine celt in Reading Museum found several feet deep in gravel; and Mr. Seward had two from his pit at Hanwell; but Mr. Clift, who published a note on the collection in *Journ. Brit. Arch. Assoc.*, N.S. xiii, 123, came to the conclusion that they must have been lying above the gravel. Miss Cottrill, of Burford, Oxon, had a celt said to have been found in gravel at Haslemere, Surrey, and Dr. Charsley, of Slough, had a delicate chisel-like implement with white patina found 5 ft. deep in gravel at Chalvey, in his neighbourhood (about 72 ft. O. D.).

In 1869 Col. Lane Fox (Pitt-Rivers) reported to the British Association¹ on his discovery of palaeoliths in the Thames valley at Acton and Ealing, and a paragraph might be quoted for what it was worth. 'To the east of the East Acton Station on the Willesden and Kew line, the gravel had been disturbed at some former period. Some cuttings were being made for the foundations of buildings at about 40 ft. above high-water mark. All the worked flints found here were of surface type, consisting of numerous small flakes, one or two small scrapers, a chipped knife or spear-head, and lastly a chipped celt, without any trace of grinding, corresponding in form to those a large hoard of which were lately discovered by the author at Cissbury, in Sussex, and have been described in *Archaeologia* (vol. xlii, p. 53). This class of implement may probably be regarded as forming an intermediate link between the palaeolithic and neo-


¹ Vol. xxxix (Exeter), 131.

lithic types'. The disturbing agency, whether human or natural, was not specified, nor was the description sufficient to fix the date or dates of the finds; but further search might some day be made in the district.

Mr. Dewey's specimen, said to have been found 4 ft. deep in the Wandle gravel on Mitcham Common (corresponding to the 50 ft. terrace of the Thames), was interesting also from another point of view. Three views of it were given in *Proc. Prehistoric Soc. of East Anglia*, ii, 111, and at the broader end might be observed traces of the *tranchet* or cross-flake which provided the cutting-edge of the leading shell-mound type in Denmark. That differed entirely from the ordinary palaeolithic technique, and was also seen on a large proportion of the 'Thames picks'. In Scandinavia the *tranchet* lingered on sporadically into the later neolithic period for tools as opposed to weapons, but was specially characteristic of the earlier Stone Age of those countries. The Mitcham celt was deeply patinated 'with mottled-brown, yellow and bluish surface, a combination to be seen on many palaeoliths'. Patina was usually accidental and very poor evidence of date, but in combination with other circumstances might give useful clues to date and origin.

Comment had been passed in the paper on the term 'Thames pick' as applied to a large class of cylindrical chipped flints not by any means confined to the Thames, but abundant on the Downs and the chalk areas of southern England. The word 'pick' was chosen not because it was the best to describe the implement (which is often more like an adze), but because the nearest parallel seemed to be the *pic* of Le Campigny (25 miles east of Dieppe), which was itself generally identified with another of the principal shell-mound types of Scandinavia. Discussion of the date of Le Campigny would be out of place, but the term pick was as appropriate as *pic*, which was generally accepted and understood abroad. Further, some geographical term was required to distinguish those found in England; and as Capt. Corner had had hundreds through his hands from the Thames, the name of that river seemed as convenient as any other of the localities concerned; but further research might produce reasons for altering the name. In the description of Le Campigny (*Revue de l'Ecole d'Anthropologie de Paris*, 1898, p. 365; Paris Internat. Congress, 1900, *Compte rendu*, p. 206) it was stated that the *pic* had never been found in any deposit earlier than neolithic; and it was a curious fact that the Thames pick was normally unrolled: in fact, few collectors had ever seen a specimen that had been abraded by water action. In 1916, however, Capt. Harvey Webb found such a specimen, about 6 in. long, with ochreous patina, at Netley, on the east side of

Southampton Water, a district of some significance on account of Sir Charles Robinson's discoveries. There both condition and patination pointed to inclusion in gravel, and that view was found to have much in its favour. At Lee-on-the-Solent two at least were stated to have come from the gravel, others were found on the surface there. A specimen 9 in. long, found in 1906 under coombe-rock and on top of the raised beach at Selsey, was illustrated in four aspects by Mr. Heron Allen in *Selsey Bill*, p. 72, pl. XII. Mr. Wells had one $7\frac{1}{2}$ in. long from gravel at Farnham, and Mr. Seward another 1 in. longer from the Hanwell pit, about 70 ft. O.D. Mr. Davis, of Crayford, had an imperfect one from the brick-earth of Wansunt gravel-pit (100 ft. O.D.),¹ and on the same level at Globe pit, Greenhithe, one had been found below the soil with Cissbury forms, on the surface of the brick-earth. Another striking instance was communicated by Father O'Farrell, of Aldershot, who had a pick found near a mammoth tusk 12 ft. from the surface in a gravel-pit north of Farnham, on the present watershed of the Blackwater and Wey; and Dr. Gibson of the same town had at least three more from the same pit. Mr. Garraway Rice and many collectors had specimens from the river or the surface of the chalk district, but in nearly all cases the circumstances of the discovery were unknown or insignificant. The longest appeared to be one in Salisbury Museum measuring 14 in.

One of the varieties took the form of a gigantic slug, with one flat face going the whole length, and as section . In the British Museum was a deeply patinated specimen from Canterbury, almost certainly from gravel; and attention had already been drawn to its resemblance to a Cissbury specimen (*Proc. Prehistoric Soc. of E. Anglia*, i, 471, fig. 18, and *Archaeologia*, lxiii, 126, fig. 18). Mr. Dale exhibited one with the same arched end and patination but with a crusted handle (fig. 10); and a fine ochreous specimen belonging to Dr. T. G. Longstaff was found (as he believed after investigation) 6 ft. deep in gravel close to the underlying sand between Pokesdown and Boscombe stations, east of Bournemouth and over 100 ft. above the sea.

There must be several hundreds of such picks in the cabinets of collectors in south-east England, but there would be little gained by a mere enumeration. It was worth while, however, to call attention to an Irish representative in the British Museum (*Archaeologia*, lxiii, 128, pl. xxii, fig. 9), and to the series of all sizes from Cissbury in the Brighton Museum. It had been suggested (*op. cit.* p. 153) that the smaller were the earlier, and that the prototype was to be sought in the earlier Cave Period (Late Palaeolithic).

¹ Mentioned in *Archaeologia*, lxxv, 209-10.

If polished celts were proved to come in some cases from gravel, such an origin would be more readily accepted for the picks, for discoveries both at Le Campigny and in the Somme valley showed that picks were normally on a lower horizon than polished implements. Dr. Corner had communicated the fact that picks occurred in upper levels of the gravel below the present river-bed, distinguished from the lower ballast by the presence of peat in horizontal patches. Above that gravel were the three beds of compact peat recognized at various points of the lower Thames. As the picks were normally unrolled it was clear that they were roughly contemporary with the deposit of the gravel, at a date when peat had begun to accumulate in the vicinity but before the main peat deposits were formed. In any further investigation of the peaty gravel, notice should be taken of Prof. Commont's *Note sur les Tufs et les Tourbes de divers âges de la vallée de la Somme: mode de formation et chronologie d'après la faune et l'industrie que renferment ces dépôts*, published in 1910 by the Société géologique du Nord (*Annales*, xxxix, p. 210).

The exhibits were of special interest and belonged to widely different periods. The deep ochreous patination of the polished celt from Dunbridge was most impressive and seemed to preclude a surface provenance, and in Dr. Sturge's collection, for instance, there were many with patinas that, apart from the form, would be attributed to palaeolithic times. The white series presented some striking resemblances to the brick-earth specimens excavated and described by the late Mr. Worthington Smith (*Archaeologia*, lxxvii, 49, especially figs. 9, 10, 34, and 36). Several were very thin for some inches below the point (as fig. 6), and all were very sharp. A large specimen had a triangular section towards the point, and another (fig. 5) had a ridge, not along the middle, a characteristic of La Micoque (transition from St. Acheul II to Le Moustier). It would be interesting to prove a chronological connexion between the upper gravel at Dunbridge and the 'floor' that extended a long way round Caddington. The polished greenstone celt, the spinning powers of which were demonstrated, was probably imported from France or the Channel Islands and might date from the Dolmen period there. Sir Ray Lankester had a larger celt that spun readily in one direction and with difficulty in the other; in the latter case it always finished by turning backwards through a considerable angle.

Mr. W. WHITAKER said there were disturbing elements in the paper, and he would like to investigate the pits mentioned. Could it be that neolithic man got hold of a palaeolith and

altered it to his taste? He could not remember seeing another example, but thought it possible that men of the later Stone Age had ground down implements of an earlier period.

Mr. GARRAWAY RICE spoke from experience of white implements, having a certain percentage in his collection from the Thames: the majority were not much rolled. All were agreed that patination took place on the surface of the ground before the implement was washed into the gravel. That implied a long exposure, and he thought the deposit was due to an exceptional flood: otherwise the specimens would be more waterworn. He agreed about the re-working of palaeoliths at a later date and thought the present specimen was a case in point. There were a certain number of neoliths so coloured, which might have been in contact with ferruginous material, but their occurrence at so deep a level was a mystery. In such cases it was very difficult to be certain of the horizon, as the digging was for commercial purposes, and large masses were dislodged from above. The Thames picks might have been neglected by some collectors as being rough work: some seemed to be flat on the top. The hafting was probably effected by rebating for 2 in. or 2½ in. and binding the flint on that part.

The CHAIRMAN had been occupied with the subject for decades, and unlike some Fellows of the Society had always been interested in the methods of flint working and the circumstances of discoveries. The first appearance of man on earth ought to stimulate the imagination and give an interest in research on proper lines. He much sympathized with Mr. Whitaker, who had put his case with great moderation, but the Society existed to be disturbed by new contributions to knowledge. The occurrence of a polished celt in association with palaeoliths was certainly unusual, but he saw no reason why such discoveries should not be made any day, the result being a re-adjustment of terminology. One difficulty in deriving the celt from the hand-axe was the change in position of the functional end. He believed that no one yet understood patination, but from the variety of colours on the table he concluded that many different agencies had been at work.

Mr. DALE also read the following note on a picture in Eling church, Hants.

In the church of Eling, near Southampton, is an excellent painting which, about fifty years ago, was taken down from the altar and placed in the vestry (fig. 1). Subsequently it was covered with glass and put up against the east wall of the south aisle of



Fig. 1. THE LAST SUPPER, BY MARCO MARZALI, IN ELING CHURCH, HANTS

the church in a very dark place. It was, unfortunately, in this position when seen by the writer of the article on Eling church in the *Victoria County History*, and it is there described as 'very much restored'. As a fact, it has never been restored at all, only cleaned, and now that it is put back in its original position as an altar-piece, it can be viewed to advantage. By the photograph I am showing it will be seen that it is a work of very great merit, and belongs to the Venetian school of the earlier years of the sixteenth century. It has been seen lately by Sir Edward Poynter and Mr. J. P. Heseltine, of the National Gallery, both of whom pronounce it to be the work of Marco Marziali, a pupil of Bellini. There is in our own National Gallery a picture by this artist of the Circumcision, which is not favourable for comparison, although it has a dog in the foreground. At Venice and Berlin, however, there are pictures by Marziali of the Supper at Emmaus, which, perhaps, in happier times the authorities mentioned may have seen, and these probably guided their ascription. The Rev. T. Thistle, the vicar of Eling, however, attributes it to Bonifazio, basing his belief on a picture of the same subject by this artist in the National Gallery of Edinburgh.

Through the kindness of Mr. J. L. Caw, director of the gallery, I have been able to obtain a photograph of this picture (fig. 2). It will be seen that in some minor details the Edinburgh picture differs considerably from the one at Eling, but the general treatment of the subject is so similar that, personally, I cannot resist the conviction that they are both by the same hand. The position of Judas is singularly interesting, and is the same in both pictures. He has evidently placed himself on the near side of the table with a view to getting out quickly. In Leonardo da Vinci's famous work he is seated with the other disciples, and has upset the salt. It will be remembered also that in this work there is no wine on the table, while the Eling picture shows a plentiful supply.

Of the history of the picture nothing is known. Eling church was, however, attached to the priory of Mottisfont, and William Lord Sandys of the Vyne, on whom the priory was conferred at the dissolution, was patron of the church. He is known to have been a lover of art, and may have given the picture to the church; unless, indeed, he removed it from the priory church when he converted it into a dwelling-house for himself. Concerning the Edinburgh painting, the director writes that it was for many years in the Certosa of Pavia, and passed into the possession of M. Schiavoni, from whom it was purchased for the Royal Institution of Edinburgh in 1850. There were two painters of the name of Schiavoni living in the earlier half

of the nineteenth century, both of whom were buyers of pictures.

Rev. THOMAS THISTLE held that it was for experts to decide which was the more likely theory, and that could not be done merely from photographs. Those who were sufficiently interested in the subject should visit the New Forest and inspect the picture. Mr. Heselstine was sure that it was by Marziadi, but he himself could not believe that the two works were by the same hand.

Mr. CLIFFORD SMITH thought it likely that the picture had come from Lord Sandys, who employed Italian workmen on the panelling of the long gallery at the Vyne, and might have imported the Venetian picture at the same time. He was specially interested in the details, such as the table-glass and oriental rug under the table. Mr. Thistle was to be congratulated on having moved the picture into its present position, as it was a work of high artistic importance.

Mr. W. WHITAKER drew attention to the similarity of the backgrounds and the different positions of the cat and dog, features that would serve to mask a copy. The two pictures certainly had something in common, but he was inclined to regard one as the copy of the other.

The CHAIRMAN thought the picture a thing of beauty, and declared for a common origin for both, though the Eling picture was infinitely superior, and perhaps ten or fifteen years earlier than the other. He pointed out that the border belonged to the table-cloth and not to an oriental rug on the floor, as a fold of linen followed the fold of the border at the right-hand corner. The Venetian style certainly showed strong oriental influence. Mr. Dale's report contained mixed material, but he had made it interesting and set a good example to local secretaries.

Thanks were ordered to be returned for these communications.



Fig. 2. THE LAST SUPPER, BY BONIFAZIO, IN THE NATIONAL GALLERY, EDINBURGH

THURSDAY, 31st JANUARY 1918.

Sir ARTHUR JOHN EVANS, Knt., D.Litt., F.R.S.,
President, in the Chair.

The following gifts were announced, and thanks for the same ordered to be returned to the donors :

From William Page, Esq., V.P. :—The church bells of Lancashire. Part III, the hundred of Blackburn. By F. H. Cheetham. 8vo. Manchester, 1917.

From the Author :—The bearing of early stone implements on the stages of man's progress. By Major R. A. Marriott, D.S.O. 4to. London, 1916.

From W. J. Hemp, Esq., F.S.A. :—Les forces de l'Europe, ou description des principales villes avec leurs fortifications. Par S. de Vauban. obl. fol. Paris, 1693.

From Colonel H. R. H. Southam, F.S.A. :—An engraving of the monument of King Henry VII in Westminster Abbey (Gravelot del. Cl. Du Bosc fecit).

Wyatt Wyatt-Paine, Esq., was admitted a Fellow.

The President referred to the death on 27th January of the Reverend William Greenwell, F.S.A., in his ninety-eighth year, and moved the following resolution :

'The Society of Antiquaries desire to place on record their profound regret at the death of Dr. William Greenwell.

'Many of the Fellows share the sense of personal bereavement ; all of them feel that the science of Antiquity in its various bearings as regards our own country, on the historic as much as on the prehistoric side, has lost a master.

'The period of more than seventy years over which his activities extended is itself unexampled, and the Society recognize in him not only a patriarch in the field of British archaeology but a pioneer to whose enlightened researches its successful direction has been largely due.'

Sir HERCULES READ, in seconding the resolution, said : I am glad to have an opportunity of saying a few words in support of the President's suggestion. Dr. Greenwell was one of my very early friends, and belonged to a group of great men among whom it was my privilege to work as a young man. These included Sir Wollaston Franks, Professor Huxley, Lord Avebury, Sir John Evans, General Pitt Rivers, and others, all of whom have left

their mark on the archaeology of the time. Among these Greenwell held a high place and was *facile princeps* in the field of the archaeology of these islands. Here his knowledge was as extensive as it was minute and accurate, and the evidence of both is to be found in the Society's various publications. I well remember how on one occasion, when a long paper he had written was to be read, he elected rather to deliver the substance of it as an extempore discourse. Those who were present on that occasion will I am sure remember, as I do, the hearty character of the applause that greeted the conclusion of the address. It certainly was a masterly effort showing the most complete command of all aspects of the subject, joined to a facility of expression that constituted the discourse a fine oratorical effort.

It is sad to think that that fine voice will never again be heard in these rooms.

The resolution was carried unanimously, the Fellows signifying their assent by rising in their places.

The Secretary read a letter from the Controller of the Oxford University Press, on the unavoidable delay in the issue of the Society's publications, on account of the shortage of labour and materials.

On the nomination of the President the following were appointed auditors of the Society's accounts for the year 1917:

Francis William Pixley, Esq.

Jerome Nugent Bankes, Esq.

Montague Spencer Giuseppe, Esq.

Percival Davis Griffiths, Esq.

REGINALD A. SMITH, Esq., F.S.A., read the following paper on the Essex Red Hills as Salt-works:

When careful excavation extending over four seasons has left the Red Hills of Essex unexplained, *a priori* reasoning may be adopted as an auxiliary method of inquiry; and the failure of a local committee to solve the problem prompts one to look at the facts from outside, and from continental experience to decide what *ought* to be found in the positions so carefully located on the map. Similar archaeological material has been found on several occasions, and the constant presence of at least one factor has a cumulative effect that may override objections based on minor differences. As a member of the Red Hills Exploration Committee I feel that full weight has not been given to cognate

discoveries elsewhere, and therefore offer to this Society, which published the original reports, a series of extracts mostly made some years ago from foreign publications that might easily be overlooked by those still interested in the Red Hills problem. But first must be given a general description of these mysterious mounds of earth on the Essex coast.

This is derived from the two reports presented by the Exploration Committee to this Society in 1908 and 1910 (*Proceedings*, xxii, 164; xxiii, 66). Scattered along the margins of the estuaries and tidal rivers of Essex (and probably of other counties on the east coast) are many curious deposits of red burnt clay, intermingled with fragments of rude pottery. These Red Hills are numbered perhaps by hundreds in Essex alone, and vary in size from a few rods to four or five acres. The pottery proves them to be prehistoric, but their purpose is still obscure in spite of many conjectures: thus they have been regarded as salt-works, cattle shelters, human habitations, potteries, or glass factories.

The hills are low flat mounds of variable outline, standing only a few feet above the level of the marshes on which they are found. They consist of a compact mass of burnt earth of varying shades, red in colour, of a fine, loose texture; and the coarse pottery mixed with it is always in a fragmentary condition, showing great variety of form and intention. The majority are flat and curved pieces, some exceeding a foot in size (though most are smaller) and usually from half an inch to one inch in thickness. Besides these are many special forms to which provisional names have been given. In nearly all cases the clay had been largely mixed with grass which disappeared in the firing and left the 'pottery' very porous and friable. By general consent the French term *briquetage* has been adopted for the baked clay, as it is not pottery in the ordinary sense of the word.

A considerable amount of slag occurs in the mounds, sometimes in large masses, and quantities of wood ash are found mixed throughout the red earth. All the Red Hills seem to be situated on or near the belt of land, known as the edge of the alluvium, which marks the old foreshore; and many have the appearance of prehistoric camps, being surrounded by a rampart, with a ditch at the foot of the slope, and a slighter mound beyond.

In my opinion the relics and the circumstances in which they were found point to a vast salt-making industry in the pre-Roman period, and a few technical points may be mentioned.

The proportion of sodium chloride in the water of the ocean is on the average $3\frac{1}{2}$ per cent., ranging from 3 per cent. for the polar seas to $3\frac{1}{2}$ per cent. or more at the equator.

At one time almost the whole of the salt in commerce was produced from the evaporation of sea-water, and indeed salt so made still forms a staple commodity in many countries possessing a seaboard, especially those where the climate is dry and the summer of long duration.

In Portugal, Spain, Italy, France, and on the Adriatic coast are salt-works in use to-day, but in England and Scotland the industry has greatly fallen off under the competition of the rock-salt works of Cheshire.

A large piece of land, barely above high-water mark, is levelled, and if necessary puddled with clay. In tidal seas a reservoir is constructed alongside, similarly rendered impervious, in which the water is allowed to settle and concentrate to a certain extent. The prepared land is partitioned off into large basins which get smaller and more shallow in proportion as they are intended to receive the water as it becomes more and more concentrated, just sufficient fall being allowed from one set of basins to the other to cause the water to flow slowly through them.

The salt is collected from the surface by means of a wooden scoop or scraper, and heaped on the floors of the basins or on the paths round them. Such is the method described in the *Encyclopaedia Britannica*, under *Salt*.

In England extensive deposits of rock-salt are found near the base of the Keuper marl, especially in Cheshire, sometimes exceeding 100 ft. in thickness; but it is mined only to a limited extent, most of the salt being obtained from brine-springs and wells which derive their saline character from deposits of salt. Although brine springs have been known to exist in Cheshire and Worcestershire ever since the Roman occupation, and salt had been made there from time immemorial, it was not till 1670 that rock-salt, about 90 ft. thick, was discovered at Marbury near Northwich, at a depth of 102 ft. In Cheshire the surface-water trickling through the overlying strata dissolves the salt, which is subsequently pumped as brine. The brine used in England is very nearly saturated, containing 25 or 26 per cent. of sodium chloride, the utmost water can take up being 27 per cent., and it ranges from 38 to 42 oz. of salt per gallon.

It has been suggested more than once that the Red Hills mark the sites of salt-pans, and the briquetage is the débris of appliances for crystallizing the salt of sea-water; but as no conclusive evidence is forthcoming from Britain, the proof of these contentions has to be sought abroad. The bulk of what follows is derived from sundry papers on the briquetage, which are based on experiments submitted to, and fully approved by, archaeological bodies on the Continent. The data are practically identical with those in the Red Hills problem, and it is hoped that a solution is at last in sight. Indulgence is asked for a certain amount of repetition in these extracts, as it is only fair to give each writer credit for his entire contribution to the discussion, and it is also of interest to see how they agree or disagree in details. While the subject has attracted a good deal of attention abroad no systematic exploration of briquetage sites, except

of the Essex Red Hills, has been undertaken in this country; and if some degree of certainty can be reached in this matter, it may some day be possible to distinguish at once the débris of salt-works from those of potteries.

Briquetage seems to have been adequately described first by Le Royer d'Artezet de la Sauvagère, in a small illustrated work published at Paris in 1740 and entitled *Recherches sur la nature et l'étendue d'un ancien ouvrage des Romains, appelé communément Briquetage de Marsal*.¹ The preface states that long before that date the briquetage of Marsal had excited the curiosity of the learned and had given rise to a number of dissertations. As a local engineer he had special opportunities for investigation, and pointed out that the deposit occurred between two marshes one above the other; further he guarantees the accuracy of his plans, which show the position of Marsal, Moyenvic, Vic, Burlecourt, and Salonne, as well as the extent of briquetage round Marsal itself. Plate III gives specimens of the briquetage, and plate IV shows a typical section of the deposit in relation to the marsh. A clue to the date is given by the discovery, 22 ft. below the main road at Marsal, of a Samian cup, form 33, stamped CASSIVS F (his plate VI), attributable to the second century of our era. It was lying among the briquetage on the surface of that deposit, and thus suggests a limiting date for the industry.

In 1901 the German Anthropological Society organized a conference at Metz and excursions to the briquetage areas at Vic and Alberschweiler in the Vosges,² in order to investigate the chief prehistoric industry of Lorraine. The report quotes from a statement drawn up by the Rev. Paulus. In the Seille meadows round Marsal, Moyenvic, and Vic, near the castle and village of Burlecourt, and near Salennes, are amazing structures well worthy of examination. They are known as the Seille briquetage, and constitute the most wonderful monument of antiquity in the country. Briquetage is defined as huge formless masses of baked clay, of various forms and colours, the latter being due to different degrees of firing and the nature of their subsequent surroundings. The forms are arbitrary, and most are due to rough moulding in the hand. Some pieces are smooth, others have a wavy surface produced apparently by contact with wood, straw, or reeds which disappeared in the firing. These are generally of paralleliped form with rounded corners (an oblong solid figure of six sides, having its opposite sides parallel), or cylindrical approaching the skittle form. The remainder, which makes up about two-thirds of the mass, consists of small knuckle-

¹ The work was summarized for this Society in 1774 (*Archaeologia*, iv, 10).

² *Correspondenz-Blatt*, April 1901, pp. 26, 27.

bone lumps, with one or two grooves in the middle. The larger pieces range between 4 in. and 12 in. in length, and are 1 in. to 3 in. thick, but the phalanges are quite small. They were all fired, and subsequently thrown into the swamp as though to make a bottom. Among them were noticed ashes, clay, and other débris of the industry; and though there was no trace of mortar, the mass was so compact that it was difficult to detach anything with a pick. Their irregular form, variety of size, the intermingled débris, the infiltration of mud, the alluvial clay, and the weight of the mass all combined to make these the most astonishing remains of antiquity in Lorraine. It was regarded as probable, if not certain, that these compact masses of briquetage formed originally a kind of platform above the level of the swamp, but now deep digging is necessary to reach them; and though at Burlecourt and Moyenvic it lies nearer the surface, at Salornnes the level was reached in excavating for a cellar, and at Vic only at a depth of 17 ft. to 20 ft. Within Marsal excavations must be made to a depth of 23 ft., and outside, the swamp covers the productive level to a depth of 6 ft. to 13 ft. The Marsal deposit is the largest and best explored. It extends under the whole town and fortifications and 375 yds. beyond westward; and the area has been computed by La Sauvagère at nearly 100 acres, with a cubic content of about 1,386,000 yds. The totals for the three sites of Marsal, Moyenvic, and Burlecourt are estimated at 300 acres and 2,600,000 cubic yds., so that the extent of the Essex Red Hills is not unprecedented.

In the same publication (December 1901, p. 140) Dr. Voss, of Berlin, referred to similar finds of briquetage in central Germany, which had never been properly described or collected. In several graves of a cemetery between Halle and Giebichenstein were many fragments of longish round objects of burnt clay, hollowed at the end and thought to be lamps. Afterwards near Halle were found four-sided prisms of burnt clay somewhat shorter than the 'lamps'. Further sites have been discovered, and other problematic objects have come to light, which were thought to be saggers for pottery. It is remarkable that they are found just in the neighbourhood of Halle and in the valley of the Saale where there are many brine springs. The place-name Halle is connected with salt, and the old Frankish name of the Saale was *Salia*—one more argument for attributing these remains to a salt industry.

The same writer¹ on another occasion reviewed the literature on the subject and traced the salt theory back to Morey (1867) and Dupré (1829, *Mémoire sur les antiquités de Marsal et de*

¹ *Zeitschrift für Ethnologie*, xxxiii, *Verhandlungen* (538); noticed in *L'Anthropologie*, 1902, 640.

Moyenvic). There had afterwards been a reaction in favour of deposits for consolidating the marshes; but the construction of a briquetage framework for firing is proved in part by the discovery of fire-bars and supports fused together. The Giebichenstein deposits go back to the Hallstatt period and possibly to neolithic times. Many references are added which will be of value to any future historian of the industry.

Excavations were carried out for the *Gesellschaft für lothringische Geschichte* by Dr. Keune of Metz in 1901, but the report¹ is disappointing, and only a few details need be quoted. This is said to have been the first serious exploration of the briquetage in the Marsal district, and in one place it was found to be no less than 23 ft. deep. Normally it rested on the original surface, under a later marsh deposit; and the remains of fires at different levels proved that the deposit was once above water-level. The mass was not concreted together, but generally mixed with earth carried by water; the bars were invariably incomplete, middles and ends being found in quantity but not matching. A specimen with only one end missing was estimated to be between 24 in. and 27 in. long. It was claimed that the excavations disproved the current theory that the briquetage was manufactured for making causeways through the marshes: there was clearly a separate use for each form, and their discovery in burnt layers implied an industry of some kind, the refuse of which might subsequently have been used as filling. On the other hand no proof was found of the nature of this industry, which was evidently carried on in the Hallstatt period (800-400 B.C.). Dr. Keune inclined to the salt-theory, and more than one speaker in the lengthy discussion of the report supported that view. Reference was also made to similar finds at Hallstatt itself in upper Austria, which must have been one of the principal sources of salt in Europe.

In 1902 Count Beaupré devoted a chapter of his book *Les Études préhistoriques en Lorraine* to the Seille briquetage, and fig. 1 is here reproduced from his plate xii. He gives several

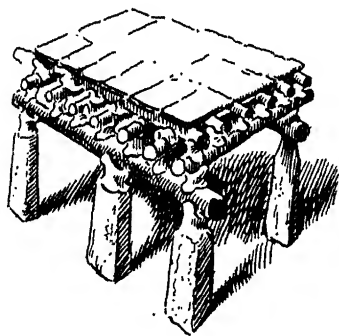


Fig. 1. SUGGESTED RECONSTRUCTION OF THE SEILLE BRIQUETAGE, LORRAINE.

¹ *Correspondenz-Blatt*, Nov.-Dec. 1901, 119 (*Archiv für Anthropologie*, vol. xxxii); and *Westdeutsche Zeitschrift*, xx, 227, pl. 10.

references and seems to regard the problem as unsolved, but adopts the opinion of M. Morey given before the Stanislas Academy in 1867, that those who deposited these masses of material were exclusively engaged in the manufacture of salt from the local brine-springs. He sums up the process as follows.

The method was very simple, and consequently the most likely to be adopted. The pieces of burnt clay, arranged in a certain order, were well heated with a wood fire, as is proved by the charcoal and ashes that surround them at the present day, and then sprinkled with brine in the neighbourhood of the springs, to save transport. That explains the vast quantity of broken vessels mixed with the briquetage: many were required to draw the water and to store the salt. Some even had on the lip indentations made with the finger before baking in order to spread the flowing water into several jets. After evaporation the salt adhered to the briquetage and was then scraped off and stored. It was found by experiment that the briquetage rapidly deteriorated and could only be used three or four times: hence the large amount of débris.

The Count's reconstruction of the briquetage piles (fig. 1) was exhibited to the Metz Congress in 1901, and consists of bars (like fire-bars or rolling-pins) in open order, supported on pedestals about $2\frac{1}{2}$ in. high and 2 in. broad. A dent in each end of the bars facilitated the arrangement of the pile, which is confirmed by many discoveries of cross-bars still adhering to the supports. The inclusion of aquatic plants in the briquetage is noticed, but the explanation offered is not convincing.

This openwork pile permitted the flames of a wood-fire to reach every part and raise the bars to a high temperature, which was then used to assist evaporation. But a flat surface was preferable for the deposit of the crystals, and above the bars were apparently slabs of oblong form, on which the salt water was gradually poured. Observations showed that the accumulation of briquetage did not begin before the Early Iron Age, and fragments of pottery vessels recovered from the mass are assigned to the Hallstatt period. Count Beaupré also refers to similar finds in Belgium, and Baron de Loë has called attention to two deposits on the coast as well as at Bruges and La Panne.

Excavations in the previous year¹ suggested to him a new explanation of two classical passages. Pliny's statement in *Nat. Hist.*, xxxi, 7—*Galliae Germaniaeque (opifices) ardentibus lignis aquam salsam infundunt*—had been already quoted by Morey in 1867. This description of salt-making was no doubt derived from an informant who had seen brine poured over burning

¹ *Le Briquetage de la Seille, fouilles de 1901 (Bulletin mensuel de la Société d'Archéologie de Metz, Sept.-Oct. 1901, and Dec. 1901).*

brushwood by the barbarians of the first century ; and another contemporary account is given by Tacitus in the *Annals*, xiii, 57 : ' It is, they (the Hermanduri and the Chatti) think, through the bounty of divine power that in that river (presumably the Saale) and in these forests (the Hercynian) salt is produced, not as in other countries by the drying up of an overflow of the sea, but by the combination of two opposite elements, fire and water, when the latter has been poured over a burning pile of wood.' The two tribes mentioned above were in A. D. 58 fighting for the possession of a river which produced salt in plenty and bounded their territories, which are known to have corresponded to Hesse-Nassau and Thuringia.

Experiments with the briquetage seem to have been first made by H. Grosse, of Reichersberg (Lorraine), in 1901 ; and discussed at the Metz Congress and by local archaeological societies. Though not quite convincing, these attempts to explain the briquetage in the Seille valley a few miles east of Nancy may be described as useful pioneer work, and his papers¹ summarized as follows.

Excavations have brought about a general agreement that the briquetage must have been used in the preparation of salt. Experiments were made at Vic with an oven constructed of this material ; the bars were heated and a thin deposit of salt on them was obtained by evaporation. Some crystallization was effected by allowing brine to drip on the briquetage when warmed only by the sun. Though originally used for the production of salt, the bars of rough pottery were subsequently made use of in solidifying boggy ground² or in the foundations of buildings. Briquetage was used instead of good earthenware, because the latter could not be brought into direct contact with fire ; and besides being cheaper, the briquetage is uniformly porous, unlike (for instance) Roman tiles. Its porosity is due to the addition of combustible material to the unbaked clay, the firing of which leaves pores in the mass that promote capillary action in fluids. It was found by experiment that bars, of the same thickness as the ancient fragments, allowed the brine to ascend to a height of 12 in., but when both ends were placed in turn in the liquid the height attained was 27 in. The process consisted in placing these bars in the edge of the brine-swamp, upright or

¹ *Correspondenz-Blatt der Deutschen Gesellschaft für Anthropologie, Ethnologie, und Urgeschichte*, 1903, pp. 21, 29 ; 1904, p. 6 ; and Summary in *L'Anthropologie*, xv (1904), 617.

² An interesting instance of this occurred near Chapel St. Leonard's, Lincs., where a number of rough clay bars, pressed in the hand before firing, were found neatly arranged under what is said to be a Roman path, as well as in neighbouring dykes.

sloping against a horizontal stick, the small pieces being used to keep the long bars apart and encourage evaporation above the water line. In course of time the pores became choked, and the briquetage had to be replaced, the refuse being used for building purposes. A cubic metre of these bars was estimated to produce 500 kilogrammes of salt but only in summer; in winter the brine-swamps were flooded with fresh water and the evaporation was reduced to a minimum. Few of the bars were found with both ends intact, and it was thought that one end was broken intentionally after firing in order to facilitate the ascent of the brine. Some had grooves or hollows at one end, apparently to retain the brine when poured on them in small quantities from above the level of the brine in which they stood. In hot and dry weather 1 lb. of salt per bar could thus be obtained in the course of three or four weeks.



Fig. 2. SUGGESTED RECONSTRUCTION OF BRIQUETAGE WITH TANK.

Further light has been thrown on the origin and use of the briquetage by Dr. A. Schliz, of Heilbronn, whose treatment of the problem leaves little unexplained.¹ Bars and other forms of this material have been found not only in the neighbourhood of the brine-springs of Lorraine but also at Bruges and La Panne on the coast of Belgium, at Giebichenstein in Thuringia, and at Rössen near Magdeburg. Their use in the production of salt from brine is taken as proved, and a new interest is thus given to the words of Pliny (*Nat. Hist.*, xxxi, 7, 83). The operation of crystallizing salt by pouring brine over briquetage heated by fire might thus have been summarily described by a stranger travelling among the barbarians. Where stone capable of resisting fire was available, briquetage might be dispensed with, but the principle would be the same in both cases.

The method adopted by these primitive peoples for obtaining salt on the sites in question is thus described by Dr. Schliz. The structure (fig. 2) of bars, slabs, and wedges was first heated slowly by means of a brushwood fire; then the reservoir was filled with brine which was conveyed to the vessel on the top of the structure, probably by a pipe provided with a tap. This straight-sided receptacle had a carefully dentated lip to regulate the overflow, and the brine was thus allowed to drip uniformly

¹ *Zeitschrift für Ethnologie*, vol. xxxv (1903), 642; summarized in *L'Anthropologie*, xv (1904), 479.

over the underlying stages. At the very first application of the brine to the heated briquetage, salt crystals were formed, and the evaporation of the water and deposit of the crystals continued as long as the heat was maintained. When the salt deposit on the bars and slabs had attained a certain thickness, the structure was demolished, the loose crystals dislodged and the firm crust knocked off, this last operation resulting in a mass of *débris*.

Samples of bars were exhibited with tough cores and porous surfaces, the latter produced by the admixture of husks of corn which on being fired left small cavities for the circulation of the brine. The short supports as well as the long tapering bars all showed signs of fire; and it was noticed that portions of vessels from the refuse-heaps belonged to the Hallstatt period, as the mode of firing, the smoothing of the surface, the peculiar edging and the ornamentation of the body were all characteristic.

At Vic and Bourthecourt in the Seille valley briquetage has been discovered in swampy ground where it had evidently been used as *débris* to make a firm foundation, and the heaps sometimes attained a thickness of 23 ft. They consisted of rough pottery bars averaging $1\frac{1}{2}$ in. in thickness and apparently about 28 in. long; peculiar vertebra-shaped supports, bearers, vaulting and covers, which all formed part of the briquetage piles; also flat slabs shaped like the sole of a boot, firebricks of the same material, and fragments of thick-walled vessels with toothed rims. In short, abundant remains of an industry in which fire was employed, extending over a long period.

Not only the remnants of pottery for use and ornament, but also trinkets and utensils occurring sporadically in these refuse-heaps, showed that the industry had been carried on in the Hallstatt or earliest Iron Age of the Continent, about 800-400 B. C. This culture was widely spread over Central Europe and is attributed to communities principally concerned with trade and cattle-raising, but suppressed by the Gallic invaders who had weapons of iron and dispossessed them about 400 B. C. For the Seille valley, at least, this date marks the end of the salt-industry, for no remains of the succeeding period named after La Tène are found associated with the briquetage.

The constant occurrence of briquetage in the neighbourhood of brine springs and on the sea-coast points to the manufacture of salt by a process or processes that involved much firing and roughly-made pottery. Inland the task would be comparatively simple, but the evaporation of sea-water gives much poorer results, there being only three to four parts of salt to 100 parts of water. Further, the English climate is moister than that of the Continent, and was still more unfavourable for evaporating

sea-water two thousand years ago ; but it should be noticed that the Red Hills occur in the driest part of England, where there would be most chance of success with the primitive process then in use. In our own day it is laid down¹ that the site chosen should be close to the brine supply, the sea or the mouth of an estuary, at about the level of the brine or perhaps lower. The evaporating beds should not present a dead level surface, a landward slope or even undulations being preferable. The brine should be flooded into the salt works by natural forces to save expense. Most of the Mediterranean works are below high tide, and are filled at high tide or at a lower level by means of sluices.

Further, salt-works below the sea-level have to be protected from storm-waves and spring tides by embankments, and must also be cut off from surrounding fresh-water drainage by canals and earthworks. A level perhaps 1 ft. below the point reached by the sea at ordinary flood-tide would appear to answer best for natural salt-works.

If the clay bed is not impermeable the dense brine at the bottom will support the weaker liquid and prevent leakage, so that a porous soil can be utilized as an evaporating bed. After crystallization the salt is raked up, and there is less dust and dirt if the bed consists of sand than is the case with clay. Vegetation must be removed or it will cause leakage, and in spite of many disadvantages the system has continued at least from pre-Norman days to the present time, as salt-works of this kind are (or were in 1877) still in existence at Hayling Island and Lymington, not to mention the Mediterranean and Coromandel coasts. These notes from a text-book of salt production seem to throw some light on the Red Hills of Essex.

Salt was one of the leading commodities of ancient times and could only be produced in quantity where brine-springs occurred inland or else on the sea-coast. It was an object of barter, and old trade-routes are found to touch the localities where the industry must have been concentrated in days when deep borings were out of the question. It is in such areas that search should be made for further traces of a civilization that reached a high level in central Europe but is poorly represented in Britain. A striking feature of the Essex Red Hills is their proximity to the sea or tidal waters ; similar finds have been made on the opposite coast of Belgium, as well as in the Channel Islands ; and the peculiar trough-like vessels and other briquetage of the Quiberon peninsula have been dealt with in the last report.²

The distribution of these sites is therefore not inconsistent

¹ J. J. L. Ratton, *Handbook of Common Salt*, 81, 84, 90, 96, 151.

² *Proceedings*, xxii, 209.

with the view that the burnt earth and briquetage are the remains of salt-works carried on for a lengthy period and on a large scale. Research on the Continent has rendered this interpretation practically certain, and we see reproduced in Britain the bars, supports, wedges, lining, even the dentated rims¹ of the straight-sided vessels and combustible material added to the clay that can now be accounted for on rational lines, even if a number of minor problems have at present to be left unsolved.

It was only this month that I came across two articles in the *Archaeological Journal* (vol. xxxvi, 369 ; vol. xxxvii, 196), one of which takes the salt theory almost for granted, and confirms the suspicions that I have had for some years past. The first is by the late Henry Stopes, F.G.S., whose colossal collection of stone implements has been acquired for the National Museum of Wales. He expressed surprise that the Essex Red Hills should have for so long failed to excite the attention of archaeologists, and began by pointing out the uniformity of their positions, having never seen one more than 5 ft. above high-water mark nor any reaching to low-water mark. He had seen some from 2 ft. to 4½ ft. deep with the same appearance throughout, the largest measuring about thirty acres. They consisted almost entirely of red burnt clay and contained an enormous number of fragments of pottery, bricks, and vessels, although not one of these seemed to be entire. Irregularly mixed with the earth he noticed large quantities of charcoal and wood-ashes, but no trace of coal. Clinkers seemed common, showing that great heat must have been thrown out by the fires that burnt them.

A mound at Peldon which he partly excavated in May 1878 was of about ten acres and was estimated to contain 100,000 tons of red earth. In another he found a large circular piece of pottery (briquetage?) which must have belonged to a pan at least 2 ft. in diameter. He had heard that similar mounds existed on the Norfolk coast, along the wide rivers of Suffolk, and in Kent. Further, he stated that the mounds invariably reached right down to the London clay, showing that the clay at the time they were deposited was not covered by mud, or that the men who made them always first cleared down to the clay, which would have been no small task in view of the acreage. A good section was given in a mound 5 ft. thick on the creek by Strood wall, showing little or no pottery but much cellular, semi-vitrified earth and burnt clay with impressions of sea-grass. He could not suggest a reply to questions concerning the nature, formation, or builders of the mounds ; but that

¹ Ibid., 194, fig. 15, nos. 15, 16.

they were ancient was proved by the fact (communicated by our late Fellow Dr. Laver) that one at Tollesbury was tilled during the time of the Saxons, and still remains outside the sea-wall.

The second article is by the Rev. J. C. Atkinson, the author of *Forty Years in a Moorland Parish*, who had been interested in the mounds for half a century, and was reminded by Mr. Stopes's paper of certain mounds on the marshes of Coatham and Redcar which are visible from the railway between Middlesbrough and Redcar. These mounds, he proceeds, were artificial beyond doubt and systematic in construction, containing bits of charcoal and sea-coal cinders, clinkers, and burnt ware (to avoid the terms pottery and brick) in abundance. He refers to the mention in cartularies of *montes salis* or Salte-hilles in the Cotum, Lythum, and Wilton marshes, to say nothing of others on the other side of the Tees. The conclusion seemed inevitable that these mounds, now barely above high-water level, marked the site of ancient *salinae* or salt-pans with their necessary adjuncts, and the presence of coal, cinders, and clinkers supported that conclusion. The area of the *salinae* is continually specified in the charters as varying from half an acre to an acre, an average size suiting the marsh-mounds with sufficient accuracy. Surtees (*History of Durham*, iii. 150) says 'In Cowpen marsh are several large earthen mounds now covered with herbage, the remains of old saltworks, which were carried on in this angle of the county all along the Tees marsh'; and it is known that the Cowpen works had to be given up soon after 1580. A state paper of Charles I mentions sun-pans for evaporating sea-water,

whereof we make salte without fewell; and do also thereby make and preserve brine to make salte with fewell. These works are made in marsh ground subject to present inundacion. We choose lands whose situation is very safe, but the worst of all has its fortifications considered in the first charge, which is done by the stuffe we spare in forming the workes, the quantity whereof being such as we raise our bankes above the height of any tide with substance.

He proceeds to note a perfect identity between the Red Hills of Essex and the mounds on the Coatham, Kirkleatham, and Wilton marshes; and points out the significance of place-names such as Salcot and Virley Salcot on the Essex coast. Saltcote also occurs near Middlesbrough and not far from the Cotum marshes where the mounds are visible; and the concluding sentence of the article is almost prophetic.

It is by no means impossible that . . . in point of date, the art, industry, or process of salt-making from the sea-water, taken in at high tides and evaporated partly by natural and partly by artificial heat, may have been one of long standing before the language to which that name (Saltcote) belongs was ever heard in Britain.

It remains to quote some of the more significant passages in the Red Hills Reports, on which I propose to base a more or less imaginary reconstruction of the industry.

The mounds were deposited on or near the line of the old high-water mark, before the construction of the sea-walls; and the old alluvium or marsh-level, on which most of them stand, was liable to be washed by high tides. Some were covered by the sea during their construction, as is shown by seams of white clay intercalated in the red earth. Arguments for the depression of the land since Roman times do not absolutely prove that the Red Hills were above tidal reach in Late Celtic times, and the marine origin of the entire thickness of the alluvium is a legitimate presumption. This was found below the Red Hills and all round their base; but there were some patches of red earth on the marsh-level (outside the enclosures of the Red Hills) that were covered by 1 ft. to 2 ft. of later alluvium (stiff brown marsh mud) which had evidently accumulated since the date of the industry, whereas the tops of the mounds had no such deposit. The red earth of the mounds had an average depth of $2\frac{1}{2}$ ft. (hence about 4 ft. above the original marsh-level) and appeared to have been burnt and then tipped like rubbish. Where the burnt earth was fine and unmixed, briquetage was rare (about $1\frac{1}{2}$ per cent.); but there were patches of coarser material where briquetage was abundant. There were some fragments of good pottery but no trace of 'wasters' from a pot-factory.

One of the Langenhoe hills measured 180 ft. by 110 ft., and rose 4 ft. above the present marsh-level: another at Goldhanger extended over $3\frac{1}{2}$ acres, and was encircled by a mound, but the date of this additional earthwork is uncertain. Here the alluvium was gravelly, at Langenhoe pure clay. The mounds do not seem to have been occupied to any considerable extent, and may be dated by the Late Celtic pottery found in them, the Roman (Samian and other) ware being demonstrably later than the red earth, as were perhaps the flues¹ found in the mound at Goldhanger. The position of the Roman pottery showed that a sea-wall existed at that period, an interesting hint as to the sea-walls along the Thames. The charcoal of the mounds had not been burnt on the spot but brought with the earth and briquetage; and proved to be of the following species: furze, broom, mountain ash, hawthorn, elder, ash, hazel, oak, sweet chestnut, willow, mulberry, alder, birch, lime, poplar, and a conifer. An examination of the pure red earth showed that if the lumps were broken across without crushing they were very

¹ Mr. Reader's comment is significant: 'It may be well to keep in view the possibility of their having resulted from a modified form of the same industry of which the original red earth is the waste product.'

porous, being riddled through with minute passages, often about one-hundredth of an inch in diameter and apparently made by rootlets.

Professor Flinders Petrie suggested that the Red Hills were the refuse of a kelp-industry for the production of alkali which could be used for soap (which Pliny says was an invention of the Gauls), also for glass making and enamelling. The most decisive evidence of this was the slag which has run over some of the briquetage. The clay bed and the briquetage alike contain about 2 per cent. of potash and rather less soda; but the slag, which is otherwise like the clay and briquetage, yet contains three or four times as much soda as the clay, but no more potash. This is in his opinion conclusive proof that the vitrifying was caused by the ash of marine plants or kelp.

Mr. Jenkins replied from the chemical point of view, and while admitting the essential similarity in chemical nature of the briquetage, red earth, and clays, pointed out that seaweeds did not absorb an excess of salt from sea-water but had a selective affinity for potash. Hence kelp would not be a likely source of the soda found in the slag, and itself would not be abundant on the low-lying, non-rocky shores of Essex. The slag referred to is greenish and vitreous, occurring in patches and tears on the briquetage; and though my own knowledge of chemistry is slight, I am reminded of salt-glazed pottery, and imagine that the excess of soda was due to the presence of sodium chloride in a very high temperature.

Having only seen two or three Red Hills on two day-excursions in 1909 and 1910, I cannot claim familiarity with their structure, appearance, or surroundings; but proceeding on the salt theory, one can imagine various stages of a manufacture that would account for many of the facts.

An area of marsh land or salting was selected about high-water mark, and cleared of vegetation during the dry season by burning on it a layer of straw or brushwood collected in the neighbourhood. The carbonized débris would then be shovelled into baskets and shot on or against an adjacent rubbish-heap, begun on the marsh-level. To judge by the mounds of red earth, fire had a crumbling effect on the old alluvium, and below the disintegrated surface would be a watertight bed, which in some cases held up a seam of iron oxide. In the process of clearing the selected area a thin layer of burnt clay would also be removed, and the surface consequently lowered to that extent, so that a high tide could flood the salt-pan, the intake being easily controlled by choking a narrow channel or repairing a small breach in a low surrounding rampart. An incidental result of the clearing would be to heat the surface more or less, which

would favour evaporation of the water. In course of time a level too far below high-water mark would be reached by successive scourings of the surface, and each season's operations would add to the area (if not to the height) of the tip. This was evidently kept flat, a labour-saving device where space was unlimited, and itself served another purpose. Except in the early stages of construction, it would rise clear even of exceptional tides, and provide dry and safe accommodation for the more tedious process of crystallizing the salt on heated briquetage. At the critical moment the weather or a spring tide must often have ruined these primitive salt-pans by flooding the burnt vegetation and reddened earth before the ground could be cleared on the marsh-level. The workers could then camp on the tip and set up their briquetage piles for firing, this method being less productive perhaps, but on the other hand less exposed to failure. For this purpose briquetage both in the form of fire-bars and receptacles would be brought to the spot, together with a supply of brush-wood. The bars would soon become choked and useless after salt water had been allowed to trickle over them, and would often be broken by the blows that detached the efflorescence; while any receptacles that remained intact would be filled with salt and carried inland. This may explain why no entire vessel of briquetage has been found in the Red Hills, the restored pots being the domestic ware of the workers camped there for a few days in the year. Eventually the sites were abandoned, and the sea deposited a uniform coating of mud over the marsh-level below the Red Hills, sometimes covering patches of red earth that had not been added to the heap. When the industry in this form came to an end in Essex is evident from the presence of Late Celtic forms and the absence of Roman pottery except in positions where deposit was only possible after the construction of the main sea-walls. It is obvious that the land has sunk on both sides of the Thames estuary since Roman times, as Roman burials are now found in the saltings; and this may possibly be the reason why ramparts were added to the Red Hills. Protection for man and beast, surprised in the marshes by an incursion of the sea, could be easily provided by throwing up from the foot of the bank enough earth to form a continuous rampart round the upper edge; and this seems the only way of explaining the enclosing ditch, which could never have been intended for defence. The date of these additions is at present indefinite, but a good reason for the decline of the British salt-industry would have been the Roman exploitation of brine-springs in Cheshire and Worcestershire. An abundant and well-organized inland supply of salt would have rendered the coastal works unnecessary; and though the historical evidence is meagre,

in an old brine-well at Kinderton, Cheshire,¹ have been found Roman pottery, bricks, and a quern, which tell their own tale.

Though changed conditions under the Romans may account for the cessation of salt-working at the Red Hills, the same method seems to have survived for a century or two in Somerset. In 1914 our Fellow Mr. Bulleid described to this Society the pottery fragments of Roman date found in several mounds in the Brue district north of the Polden Hills, some eight miles from Glastonbury and four from the present coast-line.² For nearly a century these mounds, which range between 30 ft. and 100 ft. in diameter and are 1 ft. to 5 ft. high at the centre, have been regarded as the refuse-heaps of Roman potteries; but as was pointed out at the meeting, the absence of 'wasters' (pieces warped or stuck together in firing) told against that theory; and while the briquetage shows a close connexion with the Red Hills industry, the broken pottery may be better explained as the remains of vessels brought to the marsh for pouring the salt water on heated briquetage and for collecting the resulting salt, not to mention the cooking vessels required by the workers. The 'rude brick' bore marks of straw, and consisted of thin rectangular tiles, thick tiles or bricks, bars, moulded fragments (parts of the kilns or saggers), and luting with finger imprints. Pieces of slag, semi-fired potsherds, and fragments of charcoal were found in varying quantities embedded in the fire ash.

No thorough examination of these Somerset mounds has been made; but Stradling³ found, a few yards from one of the mounds, at a depth of 18 in., a square platform of clay, around which were several pieces of Roman ware mixed with briquetage. A similar floor was discovered by Mr. Bulleid, who states that 'the mounds consist of innumerable fragments of pottery, mingled with large quantities of briquetage and fire-ash. Looked at in section, a mound appears stratified, but upon tracing any given series of layers they are found to be restricted to a small area, and do not run continuously through the whole diameter of the mound.' A closer parallel to the Red Hills could hardly be imagined.

Further investigation and a little digging on ambiguous sites might decide between the briquetage of potteries (as seems to be the case at Charlton, Kent (*Journ. Brit. Arch. Assoc.*, N.S. xxii (1916), 161-3); and Hunsbury, Northants (*Assoc. Archit. Soc. Reports*, xviii. 58, pl. v, fig. 2) and that of salt-works, for instance at Orby, Ingoldmills, Addlethorpe, Hogsthorpe, and Thorpe on

¹ *Journ. Archit. Archaeol. and Hist. Soc. Chester*, i (1849-55), pp. 40, 464.

² *Proceedings*, xxvi. 137, with map and four plates.

³ *Proc. Som. Arch. and Nat. Hist. Soc.*, vol. i, part ii, 57.

the Lincolnshire coast (*Trans. Leics. Archit. and Archæol. Soc.*, vol. ii, 88; and *Archæological Journal*, vii. 70). In any case the following references may be given:

Dymchurch, Kent, and Channel Islands: *Archæological Journal*, vii. 70, 175.

Medway: *Proc. Soc. Antiq.*, 2nd ser., ii. 238; *Coll. Antiq.*, vi. 177.

Woolsthorp, Lincs.: *Proc. Soc. Antiq.*, xxi, 420.

in addition to the cases quoted in Mr. Reader's Red Hills Reports.

Mr. WILMER said the paper contained novel evidence as to the purpose of the Red Hills. He and Mr. Reader had interviewed Comte Beaupré and M. Keune on the Seille finds, but had experienced some difficulty in inspecting the objects recovered. There was no doubt that the Count's theory of the briquetage gratings was confirmed by the remains collected. They had seen a large number of round bars connected together so as to form the angle of such a structure; and salt would effloresce if brine were poured on the heated piles. But there were discrepancies between the Nancy and Red Hills finds. The Seille springs were highly saturated with salt, and when water charged with 33 per cent. of the mineral passed over heated bars it quickly produced not bay-salt but pure sodium chloride. It had been pointed out in the paper that the porosity of the briquetage soon disappeared, so that if the industry were on a large scale, an immense quantity would have been required. He had a list of about 200 Red Hills in Essex alone, the largest having an area of three acres; but many had been reduced in size owing to the utility of the red earth on heavy soils. The three-acre hill at Goldhanger contained about 20,000 cubic yards of that material, and it had been thoroughly trenched. About 5 per cent. proved to be *briquetage*, the rest consisting of red earth mixed with charcoal; but even that could not be compared with the vast deposits of the Seille valley. With the possible exception of the mushroom-like pedestals, there was nothing in the Red Hills that pointed to the use of gratings, and the bulk consisted of furnace-bars used in some unknown industry, the flues belonging perhaps to the same period. The salt-theory had been brought forward on several occasions, and every one recognized in it a possible solution of the problem. Both the number and nature of the mounds implied the former existence of an organized industry. In his own opinion the production of salt was the only explanation, but the late Dr. Laver would not accept the theory without convincing evidence; and it was not clear how the red earth contributed to the production of salt.

He felt that though the Society was indebted to the author for further information on the subject, it had not yet been proved how salt was manufactured on the Red Hills.

Mr. W. WHITTAKER noticed in the list of woods found in the Red Hills the sweet or Spanish chestnut, which had only been in the country a few hundred years. He had no theory of his own on the subject, and was ready to accept any reasonable explanation of a problem that had perplexed his Essex friends. He was inclined to agree with Mr. Wilmer that the evidence was not convincing, but looked forward to a speedy settlement of the question.

The PRESIDENT thought that new light had been thrown on the old briquetage question, and recognized many analogies to the salt-industry. While not entering into the controversy himself, he felt that the Society might be congratulated on an interesting discussion.

Mr. SMITH replied that Mr. Lyell, who reported on the woods found in the mounds, had been intimately associated with the late Mr. Clement Reid, and expressly mentioned the sweet chestnut. If the specimen had been a modern intrusion, the fault lay with the excavators who had supplied the parcel. Mr. Wilmer's hesitation elicited his sympathy, but the position of the Red Hills itself seemed to rule out any other explanation.

REGINALD A. SMITH, Esq., F.S.A., read the following paper on a peculiar type of Roman bronze pendant :

Among a curator's duties is the difficult one of determining isolated objects in collections under his own charge or in other hands; and it is seldom the easy problems that are brought to him for solution. The archaeologist can find the large series of antiquities illustrated and described in order in one text-book after another; but these generally break down in the case of rare specimens called by our neighbours *inédits*. In the scientific and well-organized world that is to be all such things will be gathered into a *corpus*, and the truth wrung out of them; but for the present they may at the best be regarded as a wholesome mental exercise.

This then is an attempt to bring together certain scattered specimens which have little or no meaning in isolation, and to elucidate their origin and development by arguing backwards from a medieval representative—a parallel case to the so-called 'bow-pullers' (more likely bridle-spurs) submitted to the Society last session. I hasten to acknowledge with thanks the ready

co-operation of the curators at Oxford, Reading, and Salisbury, and more especially the authorities of the Castle Museum at Colchester and the Municipal Museum at Hull, who sent me specimens for inspection, and allowed them to be exhibited this evening.

Some months ago I happened to find in a drawer at the British Museum a specimen (fig. 1) that had been presented in 1867 but never exhibited. It is the jointed and serrated iron nose-band of a horse, and was found at West Frisby, Lincs. A specimen almost identical is in Reading Museum, and a third

Fig. 1. IRON NOSE-BAND (CAVESSON OR BARNACLES) FOR A HORSE: WEST FRISBY, Lincs. ($\frac{2}{3}$).

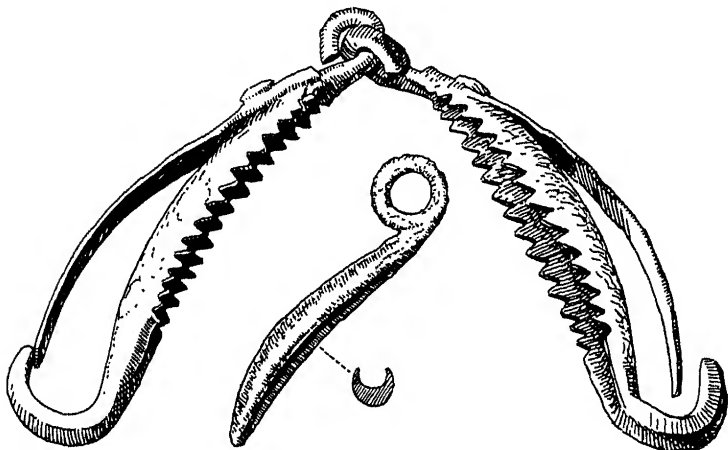


Fig. 2. BRONZE PENDANT, WITH SECTION (RANSOM COLLECTION) ($\frac{2}{3}$).

pair is illustrated, apparently in association with Late Celtic remains, in the Society's volume *Præhistoric Antiquities*, p. 112.

For the last twenty years I have looked on such things as 'brays', that term having been applied to a large bronze of two limbs ornamented with the gods representing the days of the week in the British Museum;¹ but I cannot find any but heraldic authority for the term (French *breyes*, which is given in Cotgrave's dictionary). The old name may have survived locally, or its modern use may be due to some association with 'braying', the action of pestle and mortar, which would roughly express the effect of such a nose-band on the horse's flesh.

¹ *Archæologia*, xxx. 549, pl. xxiv; Roach Smith, *Illustrations of Roman London*, pl. xxi; *V. C. H. London*, i, fig. 47 (see p. 110).

Cavesson (French *caveçon*) is probably the correct name,¹ being defined in the Oxford Dictionary as 'a kind of nose-band of iron, leather, or wood fixed to the nostrils of a horse, to curb or render him manageable through the pain it occasions'. The position would be above the nostrils, and the added virtue of the saw-edge is left unnoticed, but otherwise the above is a fair description of the implement illustrated. It would be fastened to the bridle or headstall by the hooked ends which are turned into closed loops by means of flat springs riveted near the upper ends. The device would be brought into action by a jerk of the rein, the two limbs contracting on the nose of the horse and driving the serrated edge into the flesh. One of these limbs,

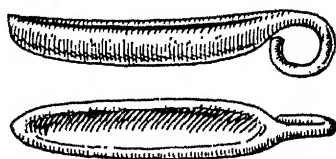


Fig. 3. BRONZE PENDANT, HUNSBURY, NORTHANTS, SIDE AND TOP VIEWS ($\frac{3}{8}$).



Fig. 4. BRONZE PENDANT, WITH SECTION (READING MUSEUM) ($\frac{3}{8}$).

divested of the spring and saw-edge, is so surprisingly like several bronzes of Roman date² that I venture to suggest a connexion between them, and to explain the Roman pendants as charms, worn in the same spirit as a horse-shoe locket or bridle-bit watch-guard at the present day, but perhaps selected in unconscious irony by lovers of the horse.

In tracing the various forms assumed by these bronze charms it may be well to point out first that a saw-edge would damage the clothes of the wearer by constant friction and would naturally be omitted. The original form of the pendant may have had a loop at the lower end of each limb instead of a hook

¹ Friends with heraldic knowledge have since informed me that this piece of harness is often found as a charge, and goes by the name of barnacles—hence the modern slang term for spectacles. 'Breys' is another spelling, and there are repeated representations of it in St. George's Chapel, Windsor, as the rebus of Sir Reginald Bray.

² No significance need be attached to a curious resemblance to the illustration of a talisman found on the shore of Lake Neuchâtel and dating from the lake-dwelling period (Keller, *Lake-dwellings of Switzerland*, trans. J. E. Lee, pl. lxxxvii, figs. 3, 4, 5).

closed with a spring. In any case there is no sign of such an addition to the bronzes.

A specimen from our late Fellow Mr. Ransom's collection¹ is illustrated (fig. 2) in a position corresponding to the left-hand limb of fig. 1; but they were evidently worn as pendants, and the fact that they do not hang straight seems to have given rise to a curious development (as figs. 12-15). The lower end is a blunt point in this instance, in others it is a knob or moulding; but I am in hopes of finding a specimen with a hook or second loop in that position, to prove a still closer connexion with fig. 1.

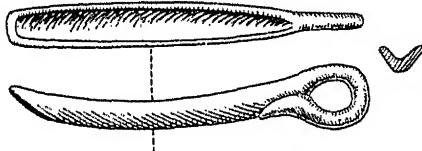


Fig. 5. BRONZE PENDANT, WOOD EATON, OXON. TOP AND SIDE VIEWS, WITH SECTION ($\frac{3}{8}$).



Fig. 6. BRONZE PENDANT, LOOP BROKEN, WITH SECTION (READING MUSEUM) ($\frac{3}{8}$).

Fig. 3 is of special interest as coming from a site without any traces of Roman influence² and hence presumably before the conquest of A. D. 43—a circumstance that has some bearing on the origin and distribution of these curious bronzes. It was found at Hunsbury (Dane's Camp) outside Northampton, and published with an illustration³ by Sir Henry Dryden, who called it a 'spoon, probably used for medical purposes'. It is $2\frac{1}{2}$ in. long and three-eighths of an inch wide.

This specimen throws some light on another (fig. 7), found on Chessell Down, Isle of Wight. Though the site is famous for its Jutish brooches and other ornaments, it should be noticed that a few earlier relics including a Late Celtic 'terret' were also found there, and there is more reason to associate the present

¹ Presented by his son to the British Museum: no locality is recorded, but most of the collection was found in the city of London or in the neighbourhood of Hitchin.

² Some of the brooches should date from the fourth century B.C. (*Archaeological Journal*, lxix, 431).

³ *Assoc. Archit. Soc's. Reports*, xviii, 58, pl. iv, fig. 1.

specimen with the earlier than the later civilization. It is remarkably slender and pointed, the channel being rather shallow; but it is of about average length ($2\frac{3}{4}$ in.).

While fig. 2 is placed so as to emphasize its resemblance to one branch of fig. 1, the remaining illustrations are arranged as far as possible in a logical order that may roughly correspond to their chronology. Thus it is fairly certain that the Hunsbury specimen (fig. 3) is pre-Roman, and the free end of its loop should be noticed, as in fig. 1. In this respect it is not far removed from fig. 4, and the same tendency may be observed in fig. 5; whereas the second from Reading (fig. 6), like figs. 7, 8, and 9, shows no sign of a join and the loop has become a solid ring. In fig. 10, however, one may discern the old tradition, and the amount of metal in the body seems excessive; but the moulding on the upper face of the loop and the terminal disc are not functional on the cavesson theory, and seem to be later



Fig. 7. BRONZE PENDANT, WITH SECTION, CHESSELL DOWN. I.W. ($\frac{2}{3}$).



Fig. 8. BRONZE PENDANT, WITH KNOB (COLCHESTER MUSEUM) ($\frac{2}{3}$).

ornamental features. In fig. 11 signs of degeneration are obvious: the channel is reduced in length, and the heavy collar between it and the loop is an element foreign to the original (or at least the ordinary) pattern. The few details available as to the above-mentioned specimens may now be given.

The two in Reading Museum (figs. 4 and 6) were probably found in Berkshire, but no locality is recorded. Though the loops and sections differ to a certain extent the general scheme is the same, and they may be grouped with fig. 5, which comes from Wood Eaton, Oxon., only three miles from the Berkshire border. To judge by its other antiquities in the Ashmolean Museum, the site is more British than Roman; and this specimen is yet another possible link with the pre-Roman population. An imperfect specimen in the British Museum from Faversham, Kent, presumably belongs to this group, as the end is pointed like fig. 4, but the loop and part of the channel are wanting: the section is something between U and V. The Gibbs collec-

tion¹ to which it belongs came mostly from the King's Field, perhaps the richest Anglo-Saxon cemetery yet explored; but Roman objects were also found, and neither this nor the Chessell Down example need be taken as proof that such pendants were popular after Roman times. Another similar was found at Chesterford, Essex, and is figured full size in *Arch. Journ.*, xxvi, 77.

The next four specimens are distinguished by a knob at the end opposite the loop. Fig. 8 is now in Colchester Museum and was doubtless found in that town, where Roman remains are abundant. The loop is imperfect but easily restored, and

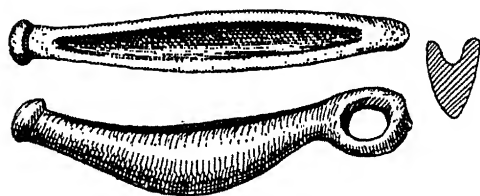


Fig. 9. BRONZE PENDANT, WYLKE CAMP, WILTS. TOP AND SIDE VIEWS, WITH SECTION ($\frac{2}{3}$).



Fig. 10. BRONZE PENDANT, WITH SECTION, LYDNEY PARK, GLOS. ($\frac{2}{3}$).

the body is slight compared with fig. 9, the section of which betrays a waste of metal. This belongs to Salisbury Museum and was found at Wylke Camp, Wilts. Of the same massive character but with a more graceful terminal is fig. 10, from Lydney Park in the neighbouring county of Gloucester. Its peculiar appearance misled the Rev. W. H. Bathurst, who thus described it in *Roman Antiquities at Lydney Park, Gloucs.* (p. 50, sec pl. xxi, fig. 8): 'A fibula in the shape of a peapod just bursting, the pin fitting into the open part.' This specimen is also illustrated by Lysons (*Reliquiae Britannicae*, vol. ii, pl. xxx, fig. 6). One of the same form but with mouldings at the point was found by our Fellow Mr. May at Wilderspool, Lancs., under a hearth 2 ft. from the surface of a Romano-British site (*Trans. Hist. Soc. Lancs. and Cheshire*, 1906 pl. 1, fig. 1).

Another aberrant form is figured from Rushall Down, Wilts.

¹ The original catalogue describes it (no. 1260) as 'the end of a strigil or part of the case of a curved instrument'.

(fig. 11), now in Devizes Museum. The drawing is taken from the *Reliquary and Illustrated Archaeologist*, 1909, p. 174, and the original seems to have been bent. The channel is much shorter than usual, and the slight moulding seen in fig. 10 has developed into a collar. On the other hand its length and the terminal knob are normal.

A radical change now takes place, and the remaining specimens are still farther from the original cavesson. At its best the series just described made but indifferent pendants, and gave no scope for decoration. They would not hang vertically and had no definite front. A change in fashion remedied these defects to a certain extent, and may have been due to continental influence. The ends now become symmetrical and the loop is

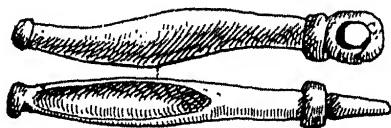


Fig. 11. BRONZE PENDANT, RUSHALL DOWN, WILTS, SIDE AND TOP VIEWS ($\frac{2}{3}$).

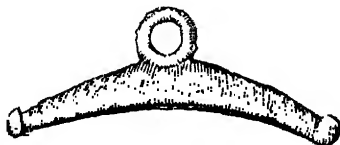


Fig. 12. BRONZE PENDANT, CENTRAL LOOP (COLCHESTER MUSEUM) ($\frac{2}{3}$).

transferred to the middle so that the pendant is horizontal, with the hollow beneath. Two examples of this form are in Colchester Museum: one (fig. 12) is somewhat below the average length, but the other must have been half an inch above it.¹ It has been restored in the drawing (fig. 14), and is interesting on account of three triangles of dark red enamel on both faces below the central loop. Nor is this an isolated departure from the Spartan severity of the type, for one in Hull Museum has two rows of triangles on either face (fig. 13) also with traces of red enamel. It was found with numerous bronzes and other small antiquities,² many of Roman date, at South Ferriby on the shore of North Lincolnshire, the site being perhaps com-

¹ Another example of this form, imperfect but originally $4\frac{1}{2}$ in. long, is in the Canterbury Museum.

² This and many others are figured in *Hull Museum Publications*, no. 65, p. 67; two views given in no. 64, pl. viii, fig. 16.

parable in respect of its miscellaneous yield with the Meols shore of Cheshire.

Though red enamel seems to have been produced by the early Britons in imitation of coral when that commodity became scarce in the third century B.C.,¹ it probably survived the introduction of other colours in the Roman period, and, though in favour of a British origin for these pendants, does not prove that they belong to the pre-Roman period.

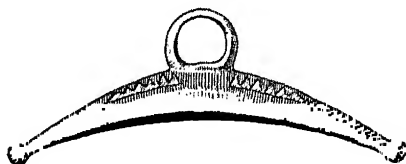


Fig. 13. BRONZE PENDANT, ENAMELLED, SOUTH FERRIBY, LINCS. ($\frac{2}{3}$).

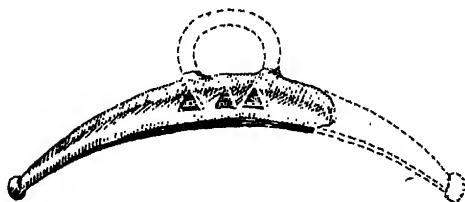
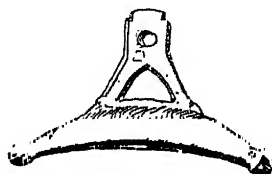


Fig. 14. BRONZE PENDANT, ENAMELLED (COLCHESTER MUSEUM) ($\frac{2}{3}$).



[Fig. 15. BRONZE PENDANT, ICKLINGHAM, SUFFOLK ($\frac{2}{3}$).

The original of fig. 15 is perhaps still in existence, but the drawing is from one of Sir Wollaston Franks's sketch-books. The scale is not indicated, but it is probably natural size. It was at the time in the Warren collection, and came from Icklingham, Suffolk. The elaborate loop or handle is a novel feature, but the rest of it is apparently normal.

The foregoing have enough features in common to constitute a group of the same origin and period; but there are points still to be cleared up. It is not at present proved that the

¹ *Proceedings*, xxii, 139.

Romans in Britain or abroad used the serrated cavesson,¹ nor is the date of our specimen (fig. 1) known for certain. Under the word *Frenum* in Daremberg and Saglio's Dictionary is illustrated a classical bronze nose-band of the ordinary harmless type, and something very like it was found with a large number of other Late Celtic bronzes (including what I take to be a debased bridle-spur) at Polden Hill, Som. (*Archæologia*, xiv, pl. xix, fig. 5). If the above arguments are sound, the pendant must have been worn by people familiar with the cavesson; and as in one or two cases the more severe form has been found in association with Late Celtic remains, one can only conjecture that the Ancient Britons invented or adopted it before the Roman invasion. In the latter case specimens should be common abroad, and it is possible that numbers exist in continental museums; but what is certainly a more common form of pendant has the crescent reversed and the upturned points given a phallic character.² They may have nothing to do with the series under discussion, but it is curious that if our type is extant abroad it should have escaped publication.

In conclusion a guess may be hazarded as to the origin of this method of controlling a horse. It was suggested that the bridle-spurs were originally wolves' teeth fixed in wood or horn, *frena lupata* in the literal sense. Is it possible that the serrated nose-band or cavesson owed its form to a primitive contrivance made of two boars' tusks strung together at the points and serrated by means of a file or saw? Neither the materials for such an instrument nor the handiwork involved would at the period in question present any difficulties to the humblest countryman. Examples have been found of boars' tusks pierced at both ends either for use or ornament, as in Mortillet's *Musée préhistorique* (1903), pl. lxviii, no. 747, and *Mémoires de la Société royale des Antiquaires du Nord*, N. S. 1896-1901, 127, fig. 42, in a short chapter devoted to the uses of such tusks, mainly as pendent ornaments. One of the references there given is to a parallel as close as one can expect to find illustrated. In the *Månadsblad* of the Swedish Academy of Letters, History, and Antiquities for 1887, p. 111, fig. 52, is a boar's tusk, imperfect at the root but perforated at the point, and with six transverse grooves on the inner face of the curve, as though to roughen it for use as a nose-band on a horse. It

¹ What seems to be a harmless example is figured by Mr. Jas. Curle in *Newstead*, pl. lxx, fig. 4, p. 297, and he quotes one from Hofheim (Ritterling, *Nachtrag*, fig. 13, no. 17666).

² This connexion is practically proved by a specimen since communicated by Mr. Mead, Curator of Canterbury Museum. It is a solid crescent with loop inside, and the pointed ends turned upwards.

came from a neolithic burial, apparently of the Arctic culture, in the Isle of Gotland; and Scandinavia and Britain are known to have been in close touch during some stages of the later neolithic period.

Mr. SANDARS said the cavesson was in common use in Spain to the present day for guiding horses and mules, and was there known as the *serreta* (from *sierra*, in allusion to the saw-edge). There were springs for holding the reins which could be easily fixed: the method was a cruel one, but of long standing in that country, the bridle bit being quite a modern introduction. The cavesson dated at least from Iberian times, and two specimens were illustrated in his paper on weapons of that period in *Archaeologia*, lxiv, p. 284, pl. xxi, figs. 2 and 7.

The PRESIDENT pointed out that the enamelling suggested an early British origin, and the rows of triangles might be a reminiscence of the original serrated edges.

Thanks were ordered to be returned for these communications.

THURSDAY, 7th FEBRUARY 1918.

Lt.-Colonel GEORGE BABINGTON CROFT LYONS,
Vice-President, in the Chair.

The following were admitted Fellows:

The Venerable Ernest Harold Pearce, Archdeacon of Westminster.

Frederick Anthony White, Esq.

Sir MARTIN CONWAY, F.S.A., read the following paper on Burgundian buckles and Coptic influences.

The buckles cited as the subject of this paper have all been published; they form a group well known to archaeologists, and I have nothing particularly novel to say about them. They will, however, serve as a stem on which to graft some observations not, perhaps, altogether without interest. The buckles in question are generally called Burgundian, though De Baye claimed them as of Lombard workmanship. They are found with scramasaxes and are of the same date as the great iron

buckles plated with silver, and the round brooches with cabochons mounted in low metal sockets. Contemporaneous also are the rings with engraved monograms and the bronze hooked clasps, which partially replaced fibulae and herald the end of the days when the dead were buried in the costume and with the furniture of life. The buckles in question, therefore, belong to the seventh and eighth centuries, oftenest probably to the eighth. The majority have been found within the area occupied by the Burgundians according to the concession of Valentinian III, that is to say in Savoy, Canton de Vaud, Jura, and the Depart-

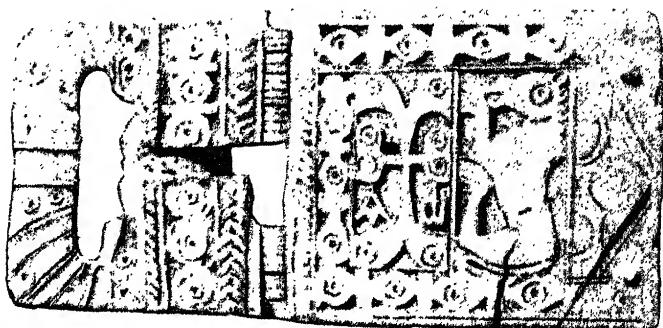


Fig. 1. IVORY BUCKLE FROM ISSOUDUN.

ment of Saône-et-Loire. A map of their distribution will be found in *Revue Archéologique*, 1879 (vol. 38), at p. 196.

As examples of earlier forms from which the type descends we may cite a silver-plated buckle from Mont-de-Hermès¹ with a cross and other decorations engraved upon it and the inscription, 'Vivat qui fecit', also a buckle in Lausanne Museum from Crissier² with two beasts in openwork in the plate which is inscribed around the edge. Both may date from the fifth century. Much more interesting and closely approximating in form to the Burgundian buckles is the ivory buckle of St. Caesarius, preserved in Notre-Dame-la-Major at Arles, along with its black leather belt with the Christian monogram punctured upon it.³ It is worth mention that in the will of St. Caesarius

¹ R. de Fleury, *La Messe*.

² *Mitt. d. Antiq. Ges. in Zürich*, Band 24, pl. iv, fig. 28. Here also is reproduced the plate of another buckle of which there is a cast in the Zürich Museum, with a chalice between two birds as its central ornament. It likewise is inscribed.

³ See R. de Fleury, *La Messe*, vol. vii, pl. 522, p. 28, and references there given.

(ob. 542) he leaves 'Domino meo Cypriano episcopo mantum et cinctorium meliorem', possibly referring to this very belt. Here we have evidently the work of a Syro-Egyptian carver. The ring of the buckle is adorned with vine-tendrils. On the plate is a representation of soldiers watching the Holy Sepulchre, which resembles in type the sepulchres on some of the Monza ampullae, but more closely that on a late fourth-century ivory diptych at Munich. The buckle of St. Caesarius proves that the form of the Burgundian buckle was of Eastern origin.

An ivory buckle of similar form, but of ruder and evidently barbarian workmanship, was found in the church of St. Cyr at Issoudun¹ (fig. 1). The plate of this buckle contains within oblong divisions a cross of roughly Coptic form with Alpha and Omega and a recumbent beast, apparently with the head of



Fig. 2. END OF SILVER SPOON FOUND IN KENT.

a horse and the claws of a griffin. A beast almost exactly similar is found on the end of the beautiful silver spoon which belonged to Mr. Basil Oxenden and was discovered in Kent² (fig. 2). It was probably made in the western or southern parts of France in the sixth or more likely in the seventh century. These two compartments on the Issoudun buckle-plate are surrounded by an ornament of lozenges within rectangular frames which can be paralleled by the outer decoration of the altar-top of St. Montanus (ob. 259) at Henchir-el-Begueur, Orléansville, Algiers.³ A more perfect parallel (of about 600-50) is to be found on a silver Burgundian buckle-plate from Fétigny, which is in Fribourg Museum, Switzerland.⁴ The pattern is of Coptic descent and can be observed in an earlier form in a tomb of

¹ *Bull. Soc. d. Antiq. de France*, 1877, p. 196; *Mém. Soc. Antiq. du Centre*, vii, p. 243; and R. de Fleury, *La Messe*, vii, pl. 522.

² See Professor Baldwin Brown in *Burlington Magazine*, 1913, p. 99.

³ Cattaneo (fig. 26) ascribes it to the seventh century; R. de Fleury *La Messe*, i, p. 128, pl. 50) to the sixth; De Rossi to the fifth. Cattaneo is probably correct.

⁴ Photograph in Baldwin Brown's *Arts of our Teutonic Forefathers*.

about A. D. 340 excavated and dated by Petrie.¹ The end of the plate is occupied by a sort of pediment with a circle and two semicircles engraved on it. Closely resembling the Issoudun buckle is a bronze example in the J. P. Morgan collection from Niederbreisig on the Rhine. Two of the panels contain a similar cross and recumbent beast; the third has a circle in the centre, flanked at each end by a human head between a pair of raised arms. The circle and two semicircles in the pediment-shaped compartment at the end of the Issoudun buckle correspond to these. Possibly the three forms on the Niederbreisig

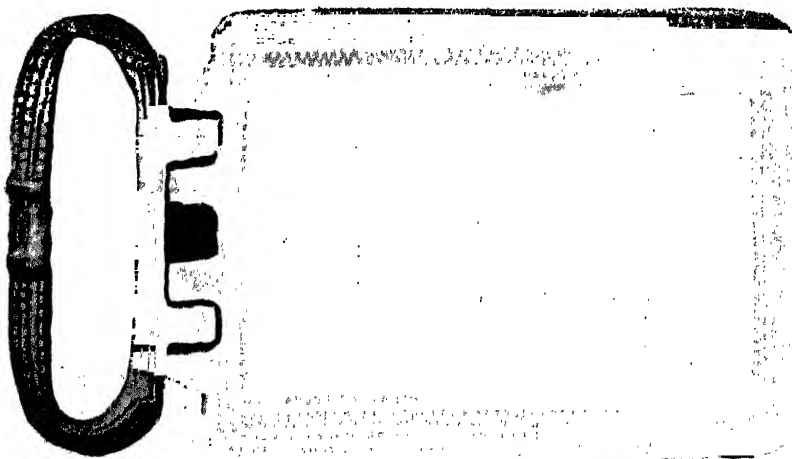


Fig. 3. BUCKLE FROM MARNENS.

buckle may stand for the three Holy Children in the Fiery Furnace. The ivory example is probably later in date than the Morgan bronze.

A further development of this type is a form of which several examples exist. Here the plate of the buckle is divided into five compartments. The central division is occupied by a cross similar in form to that we have just noticed. In the next compartment on either side of the cross is a standing human figure, with one arm raised and the other held horizontally across the waist. Each end compartment contains a recumbent dragon-like beast, with the head of a griffin and the tail of a fish. Examples are known from Yverdon, Marnens (fig. 3), Bofflens, and Echallens (all in the Canton de Vaud), and from Lussy, Canton

¹ Hawara, etc., pl. 21 and p. 21.

Fribourg (fig. 4); a similar buckle-plate is in Dijon Museum; another in the Musée St. Germain lacks the human figures. The Lussy example is surrounded by a meaningless imitation inscription. We need say no more about the cross, which, as above stated, is obviously of Coptic derivation. The human figures on either side have a strangely Assyrian aspect, but the resemblance is accidental. The cross and its two supporters are merely a barbarous rendering of such an oriental Christian composition as that so finely treated on the silver plate in the Stroganoff collection, which was

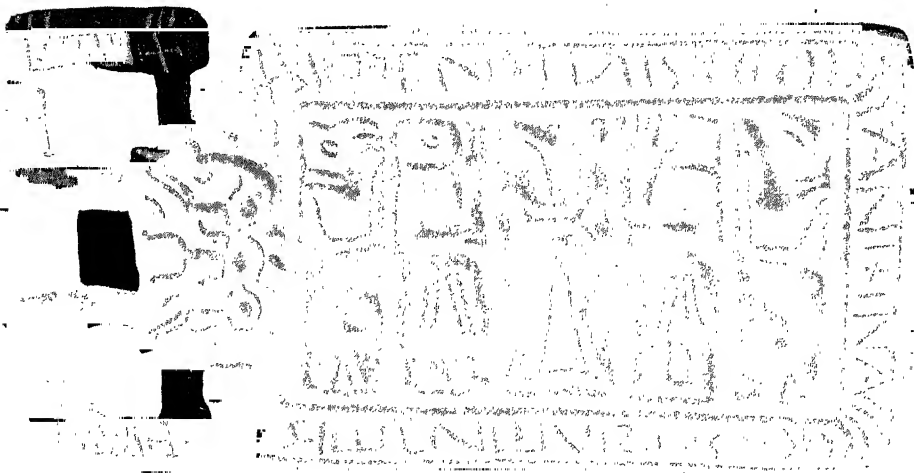


Fig. 4. BUCKLE FROM LUSSY.

found in Siberia and has often been reproduced. Here an angel stands to right and left of the cross, and each angel raises one hand with a gesture of reverence and holds the other forearm horizontally, grasping a sceptre. A similar pose and gesture are exemplified by a sixth-century (?) sculpture at Castelnau-de-Guers (Hérault),¹ and are several times repeated on the Ravenna ivory throne and in mosaics of the period.² The apparently erect monsters in the end compartments are in fact to be regarded as recumbent. They are a later development of the four-legged recumbent beast on the Issoudun buckle, but now beginning with a griffin's head and ending in a fish's tail.

¹ R. de Fleury, *La Messe*, vi, p. 208, pl. 514.

² The gesture is of pagan origin. 'In adorando dexteram ad osculum

A couple of buckles from Suuk-Su in South Russia, published by Repnikoff and not earlier than the seventh century, bear representations of lions on their oblong plates. These, however, cannot I think have any connexion with the next group of Burgundian buckles to claim our attention. It is a large group, and can be subdivided into several sections. All consist of the same elements—a standing four-legged beast with the wings of a pegasus and the head of a griffin feeding out of a vessel in form like a chalice (fig. 5). The composition undergoes degradation and in its latest examples becomes chaotic. In the commonest, though not perhaps the earliest, type the beast stands on four erect legs; in another all the legs

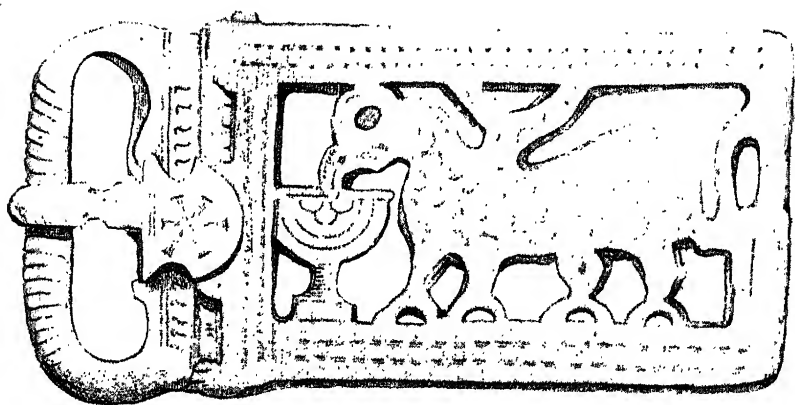


Fig. 5. BUCKLE FROM TESTONA.

are bent; in a third the front leg is pushed forward and a little raised; in a fourth this fore-leg is raised higher and held forward almost at right angles (fig. 6).¹ The design is in every case wrought in openwork, but one example (from Waben, Pas-de-Calais) in St. Germain Museum has the voids filled with a composition probably intended to represent enamel (fig. 7). The fourth of the above-mentioned slightly differing types bears a close and evidently not accidental resemblance to an oblong openwork bronze-gilt plaque which was among the recent acquisitions of the Louvre shortly before the

referimus' (Pliny, *Hist. Nat.* xviii. 5). It is the 'geste d'acclamation' of Cabrol (*Dict.* i, col. 253).

¹ Numerous examples of this type are reproduced in De Baye's *Industrie langobarde*. They are widely scattered from Normandy to North Italy, but are commonest in the Burgundian regions.

outbreak of war. Its provenance, if known, has not been published. It is described as Sassanian and has a decidedly oriental appearance. The four-legged beast stands on three legs and raises the fourth. He has the head of a bird, the body and tail of a horse, and pointed wings. From the latter fly a pair of streamers which give support to the Sassanian ascription (fig. 8).

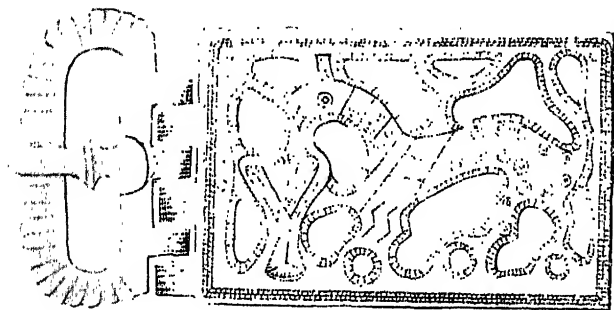


Fig. 6. BUCKLE FROM RAMASSE.

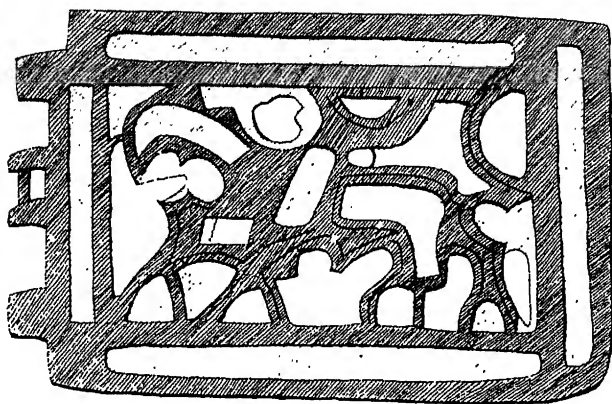


Fig. 7. BUCKLE-PLATE FROM WABEN.

Whether a fragment has been broken away on the left side which might have been a food-vessel, the reproduction at my disposal does not permit me to judge. In all other respects the design of this and of the buckle-plates is identical; indeed the barbarian craftsman might have had the Louvre plate before him to work from and, mistaking one of the flying ribbons for part of the wing, repeated it erroneously, thus altering the wing-form to that which all the buckles present.

Griffins were not uncommon features in the sculptured decoration of the eighth century in western Europe. A spirited beast of the kind is carved on a balustrade-panel in S. Miguel de Lino at Oviedo in Spain, and a closely similar and similarly treated form appears on a panel from Ingelheim now in the Mayence Museum.¹ Others in the crouching attitude of some of the buckles are on a balustrade-panel in Aquileja Cathedral, correctly dated to the eighth century by Cattaneo. The beasts have some of their muscles emphasized in the manner inherited by Sassanian artists from their Assyrian forerunners and as on the Louvre plaque. The attempt to depress the Aquileja sculptures to the eleventh century is stoutly resisted by these



Fig. 8. SASSANIAN PLAQUE, IN THE LOUVRE.

same griffins, and completely overthrown by a cross-bearing lamb, which after the tenth century would have been differently posed and would have turned his head back over his shoulder looking toward his tail.

A large and interesting group of the Burgundian buckles is defined by a representation of Daniel in the Den of Lions upon the oblong plate. The subject is in some instances² identified by a legible inscription. The completest example is that in St. Germain Museum (fig. 9). Here the composition is grouped

¹ A. Haupt, *Baukunst der Germanen*, pp. 207 and 247.

² St. Germain Museum, Lausanne Museum from Lavigny. Daniel buckles are commonest in the Canton de Vaud. Examples are known from Daillens (2), Cossonay, Mongif, Crissier, Ferreyres, and Villars-Sainte-Croix. One in Dijon Museum was found in a stone sarcophagus. According to the report of a meeting of the Commission du Vieux Paris (Feb. 8, 1912 or 1913) a Daniel buckle was found in the Quartier St. Marcel and is in the Musée Carnavalet. See also Cabrol's *Dictionnaire*, iv, col. 235 ff.



Fig. 9. BUCKLE IN ST. GERMAIN MUSEUM.

in two compartments. In the larger we see Daniel in the position of an Orans standing between two awkwardly inverted lions who are licking his feet; in the other is a second Orans, identified by the inscription as Habakkuk. An object under each of his elbows is a bread-basket or food vessel of some kind, Habakkuk (according to the story in *Bel and the Dragon*) having taken food to Daniel in the den. Representations of Daniel accompanied by Habakkuk are not uncommon. I may mention two ivory pyxes of the sixth century—the Garthe Pyx in the British Museum (fig. 10) and one in the church of Moggio Udinese.¹ In both of these the lions are in a normal position with their heads looking up. Thus also



Fig. 10. DANIEL AND HABAKKUK: IVORY PYX IN BRITISH MUSEUM.

they appear on a carved wooden corbel from Bawit (Berlin K.F.M., no. 242) and on a wooden comb from Ekhmin (Berlin K.F.M., no. 288) with St. Thekla 'ad bestias' similarly composed on the other side. Many more examples might be cited of this peculiarly oriental design which can be carried back to the *πόρνια θηρῶν* of antiquity. At Alexandria the cult of Daniel replaced that of Alexander the Great, the church of Daniel being erected near Alexander's tomb. Paintings of Daniel and the lions occur in the Roman catacombs as early as the first century.²

¹ Also a limestone relief in Berlin K.F.M. (no. 1638) of fifth-sixth century; a bucket from a Merovingian cemetery at Miannay near Abbeville (*Mém. Soc. Antiq. de France*, t. 35, p. 68); a lamp (*loc. cit.*, p. 73); a sarcophagus at Arles (Le Blant, pl. 27, fig. 2); another at Brescia (Oderici, *Mon. inst. de B.*, pl. 12, fig. 3).

² For a list see Cabrol's *Dictionnaire*, iv, col. 224; R. de Fleury, *La Messe*, vi, p. 12, pl. 437.

None of the examples cited provides us with an original or earlier stage of the type in which the lions have their heads down. We find that sculptured on the capital of a column in the church of San Pedro de Nave in Spain, but there it seems to have been copied from one of these buckles, so closely do they correspond. The lions on a sarcophagus of seventh or eighth-century date in St. Germain Museum bend less emphatically downward. They similarly appear, but more naturalistically, as late as the eleventh century in a mosaic in the church of St. Luke at Stiris. It was exigencies of space, when Daniel and the lions had to be depicted within a circular frame, that led to the inversion of the beasts. Two lamps attributed to the fourth century show the evolution of the process. In one from Smyrna (Berlin K.F.M., no. 1226) the lions awkwardly turn their heads on Daniel and look upward. The other from Carthage (fig. 11) fits them in neatly on downward slopes of not impossible steepness. Lamps of this type and Egyptian origin may have been carried into western Europe and copied by the buckle-makers.¹

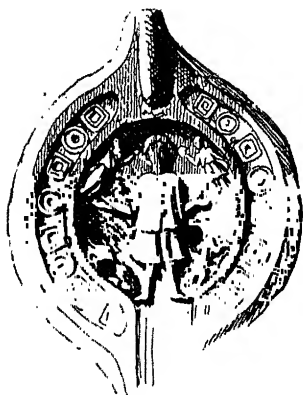


Fig. 11. LAMP FROM CARTHAGE.

It is easier to follow a like development of type in the case of St. Menas and his camels. The great shrine of St. Menas was at the recently excavated Abu Mena in the desert west of Lower Egypt. An ancient writer, cited by Quatremère, describes the church as a vast building, decorated with statues and paintings of the greatest beauty. At the end of it he saw a sculpture of the saint, standing between two crouching camels on which, he says, his feet were placed. The square depression in the wall, once occupied by this bas-relief, has been revealed by the spade, but no fragment of the relief itself has been found. A marble relief of St. Menas between the camels has been dug up from the monastery of St. Thekla, at Alexandria, and a more elaborately finished treatment of the same subject in ivory² is on a plaque in the museum at Milan (fig. 12). St. Menas, likewise between two camels, is depicted on a well-known ivory pyx in the

¹ There is a fresco of Daniel and the Lions attributed to the second century in the Cappella Greca. See *Studi Romani*, i, pl. 16.

² The attempt to bring this ivory down to the eleventh century cannot be regarded as successful.

British Museum. These three examples date from about the sixth century. In all of them the camels have their heads up, and St. Menas does not tread on them. Nevertheless it is considered probable that they repeat the standard composition which was at Abu Mena, and that the inaccuracy is in the ancient writer's description or Quatremère's rendering of it, which is all we have to go by, the original passage not being known. When, however, Egyptian artists had to depict St. Menas and his camels within a circular space, they turned



Fig. 12. ST. MENAS, IN MILAN MUSEUM.

the beasts upside down, and brought their heads in close proximity to the saint's feet, as in the case of Daniel's lions. Thus depicted, St. Menas appears on countless terracotta ampullae or flasks, sold to pilgrims to his shrine, wherein to carry away some of the water from the sacred well. A similar composition was employed to decorate terracotta lamps. These flasks were carried all over Europe, and have been found in the most remote localities.¹ Multitudes of them still exist,

¹ St. Menas was a popular saint in the south of France. There was an oratory dedicated to him at Arles.

and a great quantity were dug up by the excavators at Abu Mena (fig. 13). They must have been well known in almost every art workshop in Europe from the fifth century down to the Arab conquest of Egypt. I imagine that the type of a saint or of Christ standing between or upon two beasts with their heads down owes its persistence to the wide spreading of the St. Menas flasks.

In the museum at Berlin and in the Terme Museum at Rome are two examples of terracotta lamps pressed from identically



Fig. 13. MENAS FLASK, FROM ABU MENA.

the same mould—the one found in Egypt, the other on the Palatine. Another fragment of a lamp, also from this mould, turned up in Algiers.¹ The central circular space contains a figure of Christ standing triumphant upon the lion and the basilisk, and this type, with the beasts reversed, as on the St. Menas flasks, lingered on in western Europe down to the eleventh century.² We find it on the eighth-century ivory

¹ *Revue de l'Art chrét.*, 1893, p. 38.

² Another North African lamp, probably from the same workshop, shows the Ascension treated in rather a similar way. Two angels support

of Genoels-Eldern at Brussels, on another ivory in the National Museum, Florence, on the end of the chasse of St. Hadelin at Visé, and sculptured on a stone let into a wall of the church of Notre-Dame at Maestricht. The type as first appearing on the Egyptian lamps is borrowed from that of the Horus Triumphant of Ancient Egypt, which may be exemplified by a stele in Cairo Museum where Horus treads on two crocodiles.¹

To return to our Burgundian buckles. Another group depicts a man rudely represented in the attitude of an Orans, between two griffins. Examples may be cited from Montillier near Pam-

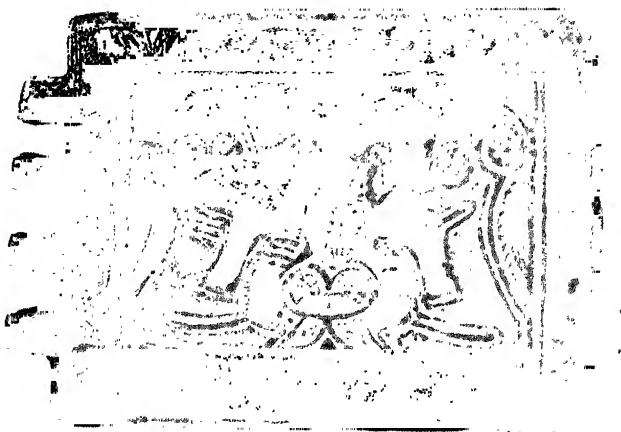


Fig. 14. BUCKLE-PLATE FROM LUSSY.

pigny, and from Arne. Whether this individual is a degraded Daniel and the griffins transmuted lions is at least doubtful. It has been suggested that the subject may be Alexander's flight into the air. An example from Lussy, Canton Fribourg (fig. 14), shows the griffins further elaborated, and the individual shrunk away into a pattern all but his head, which appears to be crowned. In a fourth example, in Zürich Museum (fig. 15)

Christ's feet and two disciples stand below looking up. It was one of a find of 191 lamps, at Syracuse. See *Notiz. degli Scavi*, 1915, p. 208; Venturi, i, p. 472; *Amer. Journ. of Archaeol.*, 1915, p. 277.

¹ See Strzygowski, *Hell. u. kopt. Kunst*, figs. 21, 22. See also Cabrol's *Dict.* i, col. 1138; ii, cols. 511-14; iii, col. 2102. There is a painting of Christ on two beasts in the catacomb of Karmuz, Alexandria. Reprod. by Cabrol, i, fig. 286.

from some unrecorded site in Canton Valais, the figure has lost all trace of human form.¹

Lausanne Museum possesses three buckles (from St. Sulpice, Boufflens, and Crête de Saugy) closely resembling one another. The oblong plate contains within a circular central compartment the rude figure of an Orans, who may stand for Daniel, between two S-shaped forms, possibly degraded beasts. There is, however, a little ivory roundel in the Berlin Museum in which Daniel stands in the midst with upraised arms, and one lion is drawn across behind, head and forequarter on one side of him, tail and

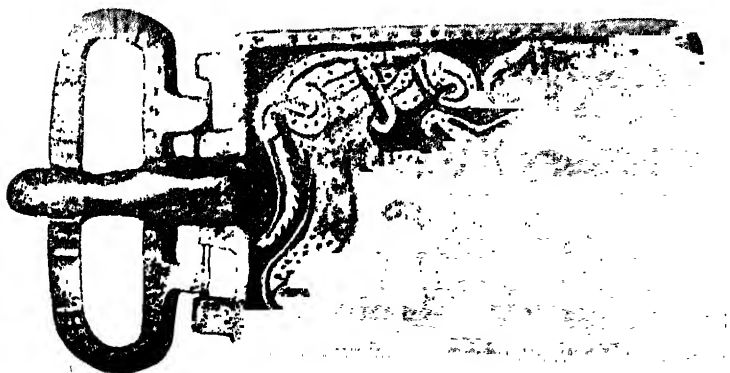


Fig. 15. BUCKLE IN ZÜRICH MUSEUM.

hindquarter on the other. This type might easily degenerate into that of the Lausanne group of buckles.

We are thus led, by an easy transition, to the buckles bearing human figures alone; one such from Tolochenaz bears a single figure, rudely fashioned on rather a large scale. Below his elbows two struts or posts appear to continue the forearms down to the ground. There is nothing to show what character he represents. Another buckle in Geneva Museum has two such figures side by side. In both the figures are merely in relief against a depressed background, but in an example from Vendreuil (Aisne)² two figures of like character are wrought in openwork. Why they should be called the Three Holy Children in the Furnace I do not know. They are just as likely to be Daniel and Habakkuk. Six similar figures in a row in openwork adorn the plate of

¹ Other examples from the Canton de Vaud come from Grancy, Cossonay, Attalens, and Ecoublons.

² Boulanger, *mobilier funéraire*, pl. 45, fig. 2.

a buckle from Lussy, and these also are called the Three Children, but the identification is at least doubtful.

A very curious buckle of ivory or bone from Elisried, Canton Berne, almost certainly depicts the Three Children in its openwork central compartment. The frame is surrounded by recumbent beasts of accustomed type. The openwork was backed with a plate of talc, supported behind by a plain plaque of ivory or bone.¹



Fig. 16. BUCKLE-PLATE FROM LA BALME.

The last Burgundian buckle we need refer to is one of altogether exceptional character in the Archaeological Museum at Geneva "from La Balme (Haute-Savoie). The frame of the plate is filled on three sides with recumbent beasts, and on the fourth by two fishes. Within we behold Christ's Entry into Jerusalem, rudely but lucidly portrayed. The heads of the second row of onlookers are regularly arranged, like so many knobs, each under an arch, and between them on a higher level is another row of heads. It almost seems as though the buckle-maker had been trying to imitate the well-known ivory relief in the cathedral at Trèves. In that we have a procession in the foreground, a row of spectators each under his arch behind, and another row, higher up, looking out of windows. The Trèves ivory is probably only one surviving example of a type-composition that may have been common down to Carolingian times, for the buckle-maker can scarcely have

¹ There is a cast of this curious buckle in the Zürich Museum. I believe the original is in the museum at Berne.

² See *Mém. Soc. Hist. et Arch. de Genève*, t. ix, pl. 1; t. xi, p. 81.

had access to the Trèves ivory itself. According to Strzygowski that was of Egyptian make.

Why did the barbarians like to decorate their buckles with representations of such subjects as we have discussed? The answer is fairly obvious. Thus decorated, they became what nowadays are called 'mascots' and by previous generations charms or amulets. An ancient form of prayer offered over the dying and often put into the mouth of a martyr runs, 'Deliver him as Thou deliverdest Daniel from the Lions, Susanna from the Elders, the Three Children from the Fiery Furnace, Jonah from the Whale,' etc.¹ The carving of such subjects upon sarcophagi was doubtless suggested by this prayer. They were equally appropriate to a warrior in peril. Tradition depicts the barbarian as a swashbuckling 'brave', but many a sturdy frame encases none too confident a heart. The barbarian soldier girding on one of these magic belts felt that he was securing supernatural protection. An Orans praying for protection forms, as we have seen, a common feature on these buckles. It was hoped that the efficacy of his prayer might be transferred to the wearer. No better reason prompted the fitting of the images of strange beasts on

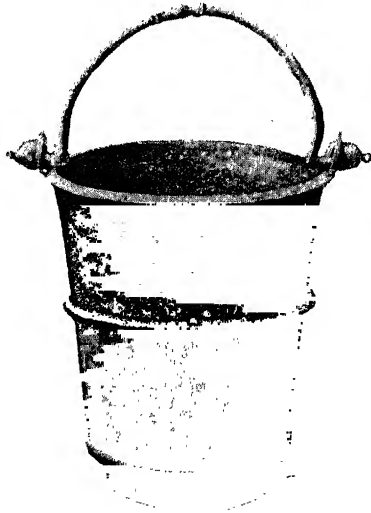


Fig. 17. BUCKET FROM GUDDESDON.

the bonnets of the motor-cars of the less civilized of our own people in days before the war. In the embattled armies of the world to-day many a soldier wears a 'mascot'; they appear to be commonest in the ranks of the purest descendants of the Teutonic barbarians. The Imperial War Museum is endeavouring to make a collection of them and will be thankful for assistance in this rather difficult quest. The wearing of charms was by no means confined in antiquity to the barbarians. It was common throughout the Roman Empire. As I have mentioned St. Menas I may cite a charm connected with him. He was called the 'Lord of the Desert', the special patron of those who made desert journeys. I imagine that the bronze pendants with two

¹ *Rev. archéol.* 1879, p. 234 ff.

camels' heads, usually with little bells attached, which are to be seen in several museums,¹ were worn by desert travellers.

Throughout the foregoing paragraphs frequent reference has been made to the Coptic derivation of some West-European types.² It is not, I think, generally realized how widely Coptic trade ramified throughout Europe in the centuries immediately preceding the Arab conquest of Egypt. Let me indicate a few examples of its extension to our own country. A fine bronze bucket was found at Cuddesdon in Oxfordshire (fig. 17) many



Fig. 18. BUCKET IN CAIRO MUSEUM.

years ago and welcomed as proof of the skill of Anglo-Saxon metal-workers.³ A glance at the print of it shows it to be incomplete. The form postulates a stand into which the base should fit. An example of the complete utensil is no. 9051 in Cairo Museum (fig. 18). The English example is unique in this country. The Cairo example belongs to a series clearly Coptic. It follows that the Cuddesdon bucket is a Coptic import into England. A notable bronze stemmed cauldron in the British Museum was found at Taplow (fig. 19). It is unique among Anglo-Saxon grave-goods, but it falls into line with a long Coptic series. Close to it in form, but lacking handles

and on a shorter stem, is a vessel in Berlin Museum (no. 1013) from Gizeh (fig. 20). The upper part of the Taplow cauldron is practically identical, handles and all, with one in Cairo Museum (no. 9047), from Illahun. Some bronze basins of allied type, but fitted with four or more feet, likewise in Cairo Museum

¹ Berlin K.F.M., no. 759; Cairo Mus., no. 7015; the Cochrane Sale; etc. A single laden camel as a pendant (Berlin K.F.M., no. 740) may have had a like purpose.

² M. M. Besson of Lausanne, in the *Revue Charlemagne* and in *L'Art barbare* (with admirable plates), 1909, noted the Coptic affinities of certain Burgundian designs.

³ Akerman, *Pagan Saxondom*, pl. 13; Baldwin Brown, *The Arts in Early England*, pl. 114, p. 467.

(nos. 9040-2), suggest by the form of some of the feet that the curious bronze teapot-shaped ewers from Wheathampstead in England and Wonsheim in Germany may have been made on the banks of the Nile. The said bronze basins link on by an easy transition to the well-known group of basins with an open-



Fig. 19. BRONZE VESSEL FROM TAPLOW.

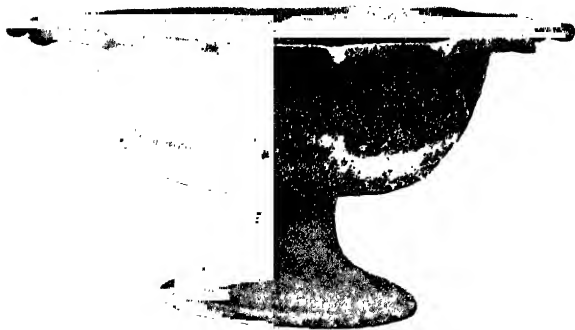


Fig. 20. BRONZE VESSEL IN BERLIN, FROM GIZEH.

work ring for foot and a pair of characteristically Egyptian handles. There are at least three examples of them in Cairo Museum (fig. 21) and two in Berlin, all five from Egypt. Several such basins have been found in England, notably in Kent. They have also been yielded by places as far afield as the banks of the Dnieper, Cividale in Friuli (fig. 22), and

near Mayence on the Rhine. In Egypt they are akin to other kinds of contemporary products. Everywhere else they look like exotics and range themselves near no other products. The plainer handled-bowls from Ash, Gilton, and Kingston Down, Kent, likewise look to me like Coptic imports, and the same remark applies to a couple of basins figured from Charnay. The Kent examples differ hardly at all in form from an Egyptian

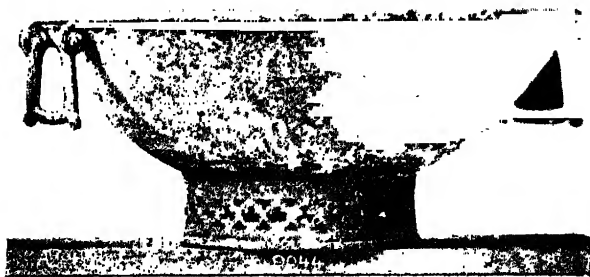


Fig. 21. BASIN IN CAIRO MUSEUM.

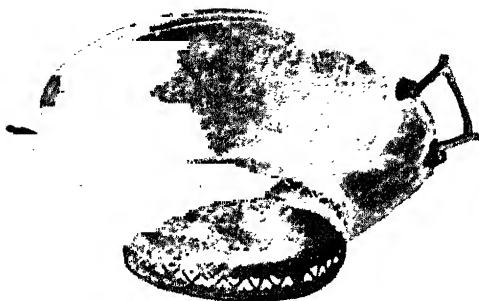


Fig. 22. BASIN IN CIVIDALE MUSEUM.

type which goes back without change to the New Empire. An example of early date is in Cairo Museum.

Professor Baldwin Brown, in his wonderful *Corpus of plates of Anglo-Saxon antiquities*, publishes a bronze pail¹ of simple form bearing a punctured representation of a leopard (figs. 23 and 24). A Coptic bronze vessel in Berlin Museum (no. 1678) shows decoration of similar character, to name only one Egyptian example. Lastly, I may cite four plain bronze basins from

¹ *Arts in Early England*, pl. 9, p. 103.

Kent, Sussex (fig. 25),¹ Weimar,² and Charnay, all of approximately the same form and dimensions with the bent-over rim of each beaten up into a row of button-like knobs. Their

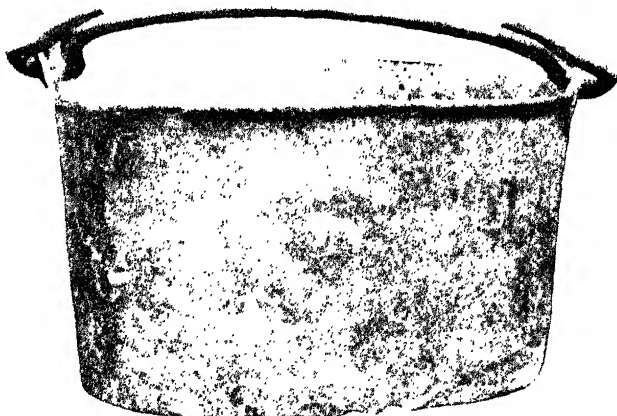


Fig. 23. BRONZE PAIL FROM CHESSELL DOWN, I.W.

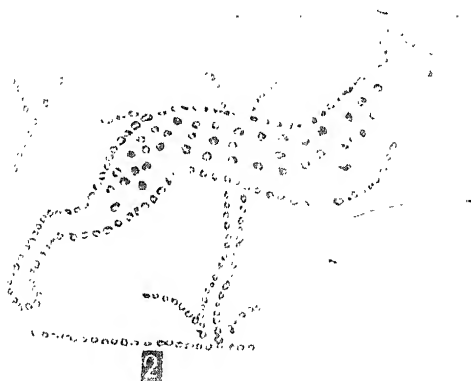


Fig. 24. LEOPARD ON CHESSELL DOWN PAIL.

wide distribution shows these basins to have been an object of commerce, and I suspect them to have come out of Egypt, the decoration of the rims of vessels with a row of knobs being a not uncommon Coptic feature.³

¹ Baldwin Brown, pl. 16.

² Berlin, Mus. f. Völkerkunde.

³ Compare Berlin K.F.M., no. 1027 ; Cairo Mus., nos. 7171 and 9102.

The interesting series of bronze bowls, fitted with hooks attached to enamelled scutcheons to carry the chains by which they were suspended, and adorned at the bottom with enamelled circular plates, are clearly of British make in every case in which the enamelled decoration contains Late Celtic decorative elements. But when I look at the Wilton bowl, or the three scutcheons in the British Museum from the King's Field, Faversham (fig. 26), with the very Eastern cross between two ramping fish, or at the low flat bowl from the same site with its 8-petalled pattern on the scutcheon, repeated on one of the bowls from Kingston Down and akin to the design beneath the hooks of



Fig. 25. BRONZE BASIN FROM ALFRISTON, SUSSEX.

another, I cannot help asking myself whether these also may not have been imports from the East Mediterranean and whether the Celtic examples of enamelled hanging bowls were not prompted by such immigrants from abroad (figs. 27, 28, 29).

It has often been asked what was the purpose served by such Celtic bowls. The presence of the enamelled plate in the middle of the bottom precludes their use over a fire. They cannot have served efficiently as lamps. How then were they employed? Without proposing any definite answer to this question let me suggest a comparison. We possess plenty of evidence that in early Christian times it was the custom to decorate altars, tabernacles, iconostases, and such prominent church features not merely with hanging lamps and crosses, but also with hanging ewers, bowls, chalices, and other precious objects. Rohault de

Fleury (*La Messe*, pl. 255) constructed an imaginary representation of such a group of decorative objects and he sketched from manuscript illuminations some examples on which his reconstruction was based. I may cite as specially suggestive some outlines made by him from a manuscript of the time of Charles the Bald in which hanging bowls are plainly depicted (fig. 30). It need not follow that the Celtic bronze bowls were thus employed exclusively in churches. What was done in sacred edifices may have been a fashion also in palaces. A miniature in the bible of Charles the Bald¹ shows the emperor enthroned and over



Fig. 26. SCUTOCHON, FROM FAVERSHAM.

him are hanging lamps and bowls. The place of audience was not in this case a church. The fact that these bowls were buried with the dead, as bronze bowls had been buried in Late Celtic times, seems to imply a use in everyday life. Perhaps they were a common feature of decoration and use in the houses of the wealthy. Just as the hanging bowls in churches were convenient receptacles for chalices and other precious objects which needed to be kept out of the way of rough handling, so bowls may have been hung in houses, partly as decoration, partly to contain trinkets or ornaments which, if stood on a table or ledge, might have suffered from rough usage in a day of rude manners and incompetent servants.

¹ Bibl. Nat. Paris, lat. 1. Michel, *Hist. de l'Art*, i. 1, p. 356.

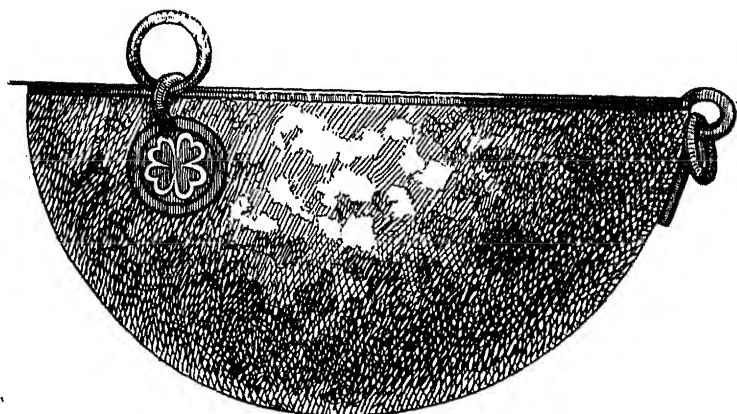


Fig. 27. BOWL FROM KINGSTON DOWN, KENT.

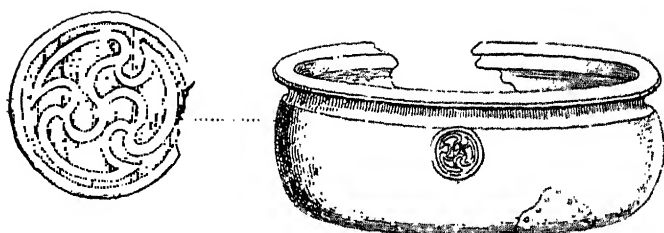


Fig. 28. BOWL FROM KINGSTON DOWN

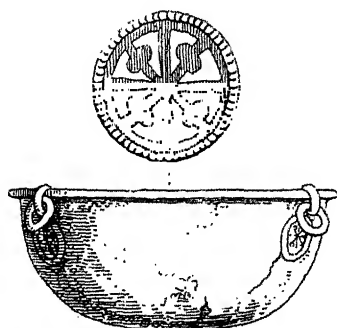


Fig. 29. BOWL FROM KINGSTON DOWN.

We have wandered rather far and somewhat discursively from the Burgundian buckles, which were all I intended to write about when I began this paper. The temptation to turn aside in these distant and foggy regions of the past is strong. I can only say that I have resisted far more side attractions than I have yielded to. But for such restraint my audience might have been kept here all night.

Mr. REGINALD SMITH remarked on the wealth of material handled in the paper and the advantage that accrued to archaeology from the sacrifice of one set of books, however rare and valuable, for the purpose of grouping the illustrations. It was curious that finds in England contemporary with the Burgundian buckles were exceedingly rare, owing no doubt to the cessation,

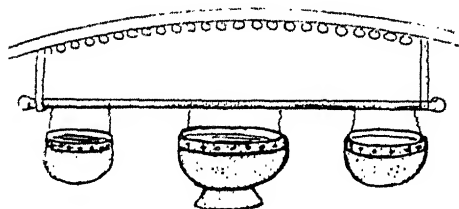


Fig. 30. HANGING BOWLS, FROM THE BIBLE OF CHARLES THE BALD.

about the middle of the seventh century, of the practice of burying objects with the dead. But there was one outstanding specimen, about A. D. 700, of Northumbrian origin, known as the Franks casket, which had the same crouching animal as the silver spoon from Kent and some of the buckles described. It would be noticed that buckles in the earlier style were made in two pieces, the opening being cut out of an oblong plate; whereas those with degenerate designs and presumably later, were in three pieces—plate, hoop and tongue, hinged together. Illustrations in the Cairo Museum catalogue had familiarized archaeologists with Egyptian examples of the bronze bowls with drop handles; and the discovery that the Cuddesdon bucket could be similarly accounted for was of some importance. A group of similar vessels had been found near Mayence, and seemed to mark the route taken by those exports, Cividale being also on that line. On the other hand, there was in Brussels Museum an enamelled escutcheon in the Celtic style, evidently from a bowl of the type attributed to the British Isles. It would be interesting to find that civilization radiated from Egypt in Anglo-Saxon times as was the case, according to

Dr. Sophus Müller, of Copenhagen, throughout the prehistoric period of Europe.

Mr. LEEDS thought the evidence adduced was quite conclusive, and had long suspected some such connexion. With regard to the Kent spoon he cited a knife-handle found at Corbridge¹ with a similar crouching figure. No suggestion was offered at the time of its exhibition, but he was then inclined to date it after Roman times. He desired to know what part was played in England by imported Coptic textiles. They would not be preserved in Anglo-Saxon graves, where only the impressions of a coarse cloth were sometimes noticed. If, as seemed likely, trade in bronze vessels was going on at the time, what influence would Coptic textiles have had? The finer examples came from Egypt and were decorated with patterns that lent themselves to reproduction. A brooch formerly in the possession of Sir Charles Robinson² was ornamented with niello and had four busts round the edge with the hand held to the mouth, possibly representing four of the senses. In the centre was a large bust in the same attitude. Years ago it had been pronounced a forgery; but he was at a loss to know whence the forger derived the idea. The motives quite agreed with Late Saxon work, and the variety of rosettes could only have been derived from a set of models gathered from many sources, such as the Coptic textiles, of which some extraordinary specimens had recently been exhibited in the Society's rooms by the Egypt Exploration Fund. One piece had five figures with rosettes between, just in the style of the brooch; and there were other motives in Anglo-Saxon art inexplicable on any other hypothesis.

Mr. FFOULKES referred to the use of the buckles as mascots, and thought the subject would repay further study in the light of the present revival. The French, Italian, and British soldiers readily took to such charms. There were totems in the form of dogs, bears, penguins, etc., supposed to have a terrifying effect on the enemy: also inoculation charms of various materials, and religious amulets; but it was difficult to induce the wearers to explain the practice. One Italian specimen consisted of a ring with coral, a hand for the evil eye, the Italian tricolour, and the Madonna. He had made inquiries in the East End and discovered some of the principles on which such charms and relics (such as shrapnel) were selected and distributed.

¹ *Proceedings*, xxiii, 489, fig. 6.

² *Antiquary*, xlv (1910), p. 269.

The CHAIRMAN congratulated the author on an illuminating paper, which contained views novel to most of the Fellows present. He had seen representations of St. Menas in European museums, but was surprised to find in Tunis as many as fifty on flagons and lamps mostly from the same models. They were evidently abundant in that neighbourhood, and had been manufactured wholesale. In all cases the saint was represented between two camels, which had their heads more or less under his feet. He recounted an incident in Bond Street illustrating the modern craze for mascots (in that case an Egyptian scarab), and mentioned the large and interesting collection of charms in Taunton Museum.

Sir MARTIN CONWAY in reply related an experience of his own in Egypt, where he had acquired a bronze he had seen excavated : one of the two alabaster eyes was missing, and circumstances had compelled him to remedy the defect by purchasing a charm against the evil eye.

Thanks were ordered to be returned for this communication.

THURSDAY, 14th February 1918.

Sir ARTHUR JOHN EVANS, Knt., D.Litt., F.R.S.,
President, in the Chair.

The following gifts were announced, and thanks for the same ordered to be returned to the donors :

From the Author :—Elgin, past and present ; a historical guide. By H. B. Mackintosh. 4to. Elgin, 1914.

From the Author :—Neolithic flints from a chipping-floor at Cannock Wood, near Rugeley, South Staffordshire. By T. C. Cantrill. 8vo. n.p. 1917.

From the Author :—The holy well and the water of life. By R. A. Courtney. 8vo. Penzance, 1916.

John Bowyer Buchanan Nichols, Esq., was admitted a Fellow.

P. M. JOHNSTON, Esq., F.S.A., read a paper on the early wall-paintings in Clayton Church, Sussex, which will be printed in *Archaeologia*.

Mr. KEYSER had seen the paintings in 1898, soon after they were uncovered, and had described them and others in the *Archaeological Journal*, liii, 166. It was most desirable to have a record of all the wall-paintings discovered in recent years. On a visit to Clayton last year he had been much pleased with what had been done to preserve one of the most interesting series in the country. There was no question that the chancel arch and nave were of Saxon date, and the paintings were probably executed soon after the date of building. The ribbon zigzag of the vesica panel had been undoubtedly restored, but all might be very early as there was little change in costume for some centuries. He thought the figures within the enclosure might represent souls that had passed to the heavenly mansions; and the completeness of the scheme was remarkable in such a small space. It was a matter for congratulation that the work of restoration had been placed in such good hands. The paintings had probably faded considerably in the past twenty-five years, and a similar set at Patcham was in urgent need of attention. The elaborate borders gave him the impression of a thirteenth-century date, but an earlier one was not excluded. Over the doorway of Elstow Church, Beds., was another figure of Christ delivering the key and book to apostles. Credit for such enlightened action was due to the squire, Mr. Warner, and to the vicar of the parish. In his opinion the Keymer paintings were almost as early as Clayton.

Sir MARTIN CONWAY detected a North German quality in the paintings, which had no relation to French art of that period. The enclosed space or mansions commonly occurred in drawings of a certain school akin to the Utrecht psalter. He hoped that Mr. Johnston would again bring the matter before the Society when the illustrations were complete; also that the drawings would be reproduced in their entirety by the Society, as such illustrations were of more permanent value than volumes of text, which became practically valueless in half a century. He deprecated half-measures and pleaded for coloured plates of the whole series.

Mr. NEWMAN inquired whether that particular ground of yellow wash assisted the adhesion of the painting. He understood from the paper that the adhesive quality was good enough

to allow of washing. He was glad to hear that wax had been used as a preservative, as its effectiveness had been demonstrated at Aldernaston and Canterbury. A certain likeness to German work had been mentioned, and it should be noted that German work adhered to older types than the French, and was ultimately derived from the East. The basis of the present paintings was certainly Byzantine. The author and all concerned were to be congratulated on the work of preservation.

THE SECRETARY thought the paper a worthy successor to an admirable account of similar work given last session. He agreed with Sir Martin Conway's remarks on the style and derivation of the paintings. At first sight they did not impress one as the work of craftsmen influenced from France. He was rather against an early eleventh-century date, as they differed in quality from the Saxon manuscripts of that century. The drapery for instance had more repose than the fluttering folds of the miniatures. There were not enough parallels to decide, but perhaps a conclusion could be reached if the complete series of paintings were exhibited to the Society on another occasion. It was wise to fix on the latest feature: the scroll could possibly date from the eleventh century but was more likely to be of the twelfth. The trefoil arches were not decisive, and though the present example might be half a century earlier than Hardham, the style survived into the twelfth century. Their exact date was not so important as their position in the history of art, and he hoped that the Society would find it possible to reproduce the whole series in a worthy manner.

THE PRESIDENT thought a new chapter had been opened in the history of English ornament. In many points there was disagreement with the Saxon tradition, and French influence was known to have been very strong in the time of Edward the Confessor. The decorative frieze seemed out of harmony with Romanesque tradition, and more might be done with that feature. The Society was indebted to Mr. Johnston not only for his patient work on the fabric, but also for the paper which was so splendidly illustrated by his own hands.

MR. JOHNSTON replied that it had not occurred to him at first to examine how the surface was attached to the wall. Later he had found the Saxon plaster retaining large portions of its rough lime-wash in place behind the intonaco. He conjectured that about 1020 the wall was lime-washed, and about 1050 was superadded the intonaco on which the paintings were executed.

The scroll-work extended nearly all round the church: it did occur in Roman work, but continued into the fourteenth century. A parallel at Britford and the Saxon crosses at Eyam were all in favour of the eleventh century.

Thanks were ordered to be returned for this communication.

THURSDAY, 21st FEBRUARY 1918.

Sir ARTHUR JOHN EVANS, Knt., D.Litt., F.R.S.,
President, in the Chair.

The following gifts were announced, and thanks for the same ordered to be returned to the donors:

From the Author:—The fate of the structures of Conway Abbey, and Bangor and Beaumaris Friaries. By Edward Owen, F.S.A. 8vo. London, 1917.

From the Author:—Bailments. A commentary on the law of custody and possession. By Wyatt Paine. 8vo. London, 1901.

From the Author, James Curle, Esq., F.S.A., F.S.A.Scot.:—

1. Terra sigillata: some typical decorated bowls. 4to. n. p., 1917.
2. Note on additional objects of bronze and iron from Newstead. 4to. n. p., 1917.

From W. M. Tapp, Esq., LL.D., F.S.A.:—An album of photographs of designs engraved on supports and roofs of dolmens at Carnac, Locmariaquer, and Arzon, Morbihan, Brittany (photographs taken in 1910).

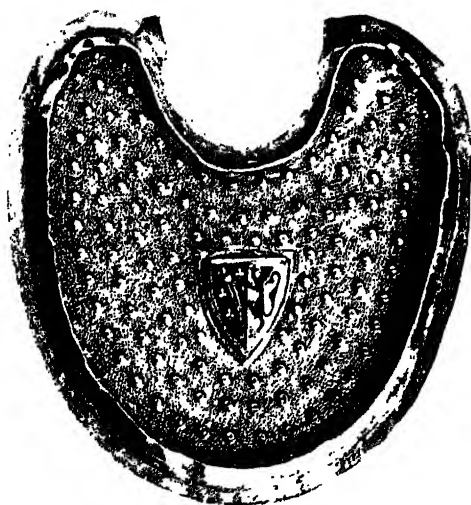
From W. H. Quarrell, Esq., M.A., F.S.A.:—Engraved portrait of Rev. John Evans, F.S.A. (1767-1827).

A special vote of thanks was accorded to Mr. W. M. Tapp for his present to the Society.

Notice was given of the ballot for the election of Fellows to be held on Thursday, 7th March 1918, and the list of candidates to be put to the ballot was read.

Miss JOAN EVANS contributed the following paper on an enamelled lid at All Souls College, Oxford:

The plate of All Souls College is famous; photographs and reproductions have made its 'Huntsman Cup', its silver flagons,



ENAMELLED LID AT ALL SOULS COLLEGE, OXFORD ($\frac{2}{3}$)

and its wonderful collection of mazers as well known as any specimens of early plate in Oxford. The *jocalia* of the college include, however, several fragments of earlier work, which tradition connects with every appearance of probability with Chichele himself. So far no direct proof of this connexion has been forthcoming, either in an early inventory of the *jocalia*, or in Chichele's will, which I have been unable to trace at Somerset House, Lambeth, or Canterbury.

Among these relics is an early enamel which, as an unusually perfect specimen of an early period and interesting type, deserves the honourable place assigned to it by Mr. Cripps and Mr. Moffat as the *doyen* of Oxford college plate. Neither, however, gives an illustration of it, and since it has not been shown to the public since the Loan Exhibition of works of art held at the South Kensington Museum in 1862,¹ a plate and some further notes on it are perhaps worthy of publication.

The enamel has the form of an imperfectly symmetrical horse-shoe filled up in the middle; this, the presence of a knob in the centre, and the raised rim at a short distance from the edge at the back, sufficiently mark it as the lid of a vessel. The slightly asymmetrical form suggests that the vessel was made from some natural object, and the semi-elliptical opening at the broader end makes it certain that the vessel must have been a nautilus cup.

The lid is of silver heavily gilt. Its decoration is in enamel of two types: on a ground of heraldic diaper in champ-levé filled in with red and black mastic are applied four radiating bands of increasing width, of cloisonné enamel on a ground of translucent green. The two upper bands of cloisonné are 3.4 cm. long, 0.5 cm. wide at the knob, and 1.5 cm. at the rim; the two lower bands are 3.2 cm. long, widening from 0.3 cm. to 1.7 cm. The lid itself is 9.8 cm. in its greatest length by 9.2 cm. in its greatest width.

The treatment of the enamel as an applied decoration in a slightly higher plane than that of the ground may perhaps be considered as an example of the *émail de plique* or *de plite* which frequently appears in inventories of the late thirteenth and fourteenth centuries, while the heraldic diapers afford even more reliable grounds for the attribution of the object to that period.

The cloisonné enamel is an unusual feature, and at first sight appears to be of earlier date than the rest of the work. The closest parallel to its symmetrical tree patterns with their trefoils of white, yellow, red, and light and dark blue may, however, be found in two plaques in the Louvre intended for the decora-

¹ Catalogue, ed. Sir J. C. Robinson, Section 13, no. 3200, p. 268.

tion of the backs of a pair of gloves.¹ These plaques, which were found in the Cistercian abbey of Preuilly (Seine-et-Marne) in the tomb of Jean de Tanlay or de Champlay (d. c. 1292), differ from the enamels of the All Souls lid only in the colour of their ground, which in the former is of opaque blue and in the latter of translucent green. So close, indeed, is the resemblance, that it would almost justify their attribution to the same workshop, if not to the same hand.

The admirable manner in which the cloisonné enamels of the All Souls lid play their part in the design of the whole, and the way in which they conform to the irregular shape of the lid, point to their having been made for the purpose; and since the rest of the enamel is clearly French in style, the attribution of the Preuilly medallions to a French workshop is confirmed.

The most certain clue to date is the heraldic diapering. The broadest part of the ground (that in the centre) is covered with a lozenged diaper of France ancient and Navarre. These coats also appear on the small upper segments of the field, and on the knob. The next segment on the sinister side bears *or, a lion rampant sable* for Hainault or Flanders; and *gules, powdered with trefoils two barbels haurient addorsed or*, for Clermont-Nesle. The segment on the dexter side bears *azure a bend argent cotized potent counter-potent or, voided sable* for Champagne, and *or, powdered with trefoils two fish haurient addorsed gules*. This coat, Nesle counterchanged, I have been unable to assign to any family, nor is it familiar to the eminent French herald, M. Prinnet: it would seem probable that it was the blazon of a branch of the house of Nesle that differenced by counterchanging instead of by arbitrary change of tincture.

The back of the lid is covered with smooth round bosses on a matted ground: a form of decoration, perhaps the *greneté de greneture enlevé* of the inventories,² of which the probable origin is a desire to hide the rivets joining the upper and under plates of metal. In the middle is a dimidiated shield in mastic enamel, which offers a definite clue to the origin of the piece. It bears on the dexter half Nesle, and on the sinister Flanders. The most obvious alliance to account for this combination is the second marriage of Raoul de Nesle, Constable of France, with Isabella of Hainault, which took place between his campaign

¹ J.-J. Marquet de Vasselot, *Catalogue sommaire de l'Émaillerie et de l'Orfèvrerie* (Musée du Louvre), 1914, no. 139, p. 29; *ibid.*, in Michel, *Histoire de l'Art*, vol. ii, pt. 2, p. 939; E. Molinier, *L'Orfèvrerie du V^e au XV^e siècle*, p. 210.

² de Laborde, *Notice des Émaux . . . du Musée du Louvre*, 1853, vol. ii, p. 335, s.v. Greneté.

in Flanders under Philip the Fourth in 1297 and his death on July 11th, 1302.

This date agrees sufficiently well with the appearance of the object. It bears a certain family resemblance to the 'Clasp of St. Louis' of the Treasury of St. Denis, a work of the late thirteenth or early fourteenth century. A heraldic diaper of similar type to that on the All Souls lid appears on the bottom of an early fourteenth-century reliquary belonging to the museum of Cividale del Friuli, now, let us hope, removed to some more tranquil place.¹ The charges are in this instance a double eagle and the four lilies of France differenced with a bendlet and a label of three points. The fleurs-de-lys of this example and of the St. Denis clasp are almost identical with those portrayed on the All Souls lid.

Such enamels are also recorded in the inventories of the time: that taken in 1363 of the vessels of the Duke of Normandy, eldest son of the king of France, includes '*Une aiguière quarrée dorée et losengée d'aymaux des armes de France et de Bourgogne*',² and many other similar descriptions might be quoted.

Even the form of the vessel—a nautilus shell presumably mounted on an enamelled foot and covered with a lid similarly decorated—may be paralleled in inventories drawn up in the middle of the fourteenth century describing objects of slightly earlier date. That of the treasures of Louis of Anjou drawn up between 1360 and 1368 includes '*Une salière d'une coquille de perle séant sur un long pié grelle. Et la pate est longuette et a dessus quatre esmaux en manière de losange, et ou pommel du pié a IIII autres petits esmaux pareils, et le couvercle est doré touz plain, et y a dessus IIII autelz esmaux, sans differance comme ceulx de dessus la pate*'.³ The same inventory contains descriptions of a dozen other vessels partly formed of pearl shell, mostly of fantastic form: held by figures of men and women, in the form of peacocks and flying serpents, surmounted by castles or resting on the backs of lions.⁴ Others appear in the royal inventories; that for instance of the duke of Normandy drawn up in 1363 includes '*xvii coquilles de perles, garnies d'argent, dont il y en a x couvesclées et vii sans couvescles*'.⁵ As some of these shell vessels are qualified as '*à manière d'une nef*'⁶ or '*en manière de limaçon*',⁷ it is reasonable to suppose that some, at any rate, were of nautilus form.

¹ Victoria and Albert Museum photograph, 1851, 1907.

² de Laborde, *op. cit.*, vol. ii, p. 124, s.v. Aiguière.

³ *Ibid.*, p. 83, no. 511.

⁴ *Ibid.*, nos. 268; 300, 306, 512, 515-18, 572, 714.

⁵ *Ibid.*, *op. cit.*, p. 468 N.

⁶ *Ibid.*, p. 470 ZZ.

⁷ *Ibid.*, p. 469 FF.

Any attempt to account for the acquisition of the object by All Souls College must, in the absence of documentary evidence, be a matter of conjecture. There is an interval of more than fifty years between the death of its presumed owner, Raoul de Nesle, and a date in Chichele's life at which he had risen from his early obscurity. The marriage of Raoul de Nesle with Isabella of Hainault, commemorated by the dimidiated shield on the back of the lid, was apparently childless. Of the children, all daughters, of his previous marriage the eldest, Alix, married first, William of Flanders, and second, Jean de Chalon, Seigneur d'Arlay. The second daughter entered a convent. The youngest, Beatrice 'dite Jeune', may conceivably have been the means of conveying the enamel to England, for she married Aymer de Valence, Earl of Pembroke, lord of the manor of Higham Ferrers, the birthplace of Archbishop Chichele. She died childless, and the two other marriages of Aymer de Valence being also without issue, his estates passed to his sister's son, the first Hastings, Earl of Pembroke.

It is tempting to suppose, given this possible course of events, that the enamel might have passed into Chichele's possession through his connexion with Higham Ferrers; but I have found no record of any close relations existing between him and that contemporary lord of the manor, nor indeed any indication that the enamel came to England with Alix de Nesle.

An equally probable hypothesis is that it remained in France, falling to the lot of the eldest daughter of Raoul de Clermont-Nesle, and that it may have come to Chichele in the course of his diplomatic relations with that country, extending from 1405 to 1420, and including at least six visits to its shores.

Finally, it must not be forgotten that we have only tradition and the early date of the enamel to support its inclusion among the *jocalia* of the founder. It is not so described in the inventory of 1437¹ or in that of 1448²; indeed, the first definite description I have found of it occurs in the inventory of the college plate made in 1556³: 'Item a pesce of silver enameled made lyke a man's harte.' In the inventory signed by Warden Hovenden in 1588⁴ it appears as 'a cover for a Cupp enameled fashioned lyke a hart', and this description is repeated with slight variations in subsequent inventories.

My thanks are due to the Warden and Fellows of All Souls for their kindness in granting me permission to photograph and republish the enamel and to study the MS. inventories of the

¹ All Souls MS. 210.

² W. St. John Hope, *Archaeological Journal*, 1894, li, 120.

³ All Souls MS. Misc. 43, m. 2.

⁴ *Ibid.*, 241, fol. 1 b.

college plate; to Mr. C. G. Robertson, the Domestic Bursar, for showing me the plate on several occasions; and to many friends who have aided my investigations by their kindness.

SIR HERCULES READ referred to the communication of a paper by the daughter of one President and the sister of another as an event not likely to recur. The subject was a medieval relic of singular charm, and had evidently been the cover of a nautilus cup. The enamel was of a most attractive kind and was produced at the apogee of that form of decorative art. The prominent position of one coat of arms set at rest any doubts as to the original ownership. Members of the same family of de Nesle were patrons of the Limoges enamellers, ordering services of dishes and other pieces which were in many cases ornamented with their arms. It was not clear how the enamel came into the possession of All Souls College, in spite of diligent inquiry into its history. He had had the pleasure of forwarding Miss Evans's studies, and felt sure she would prove worthy of her family. The Society would on every ground be ready to accord their best thanks for the communication made to them.

The PRESIDENT expressed his appreciation of the kind manner in which the paper had been received, and regretted the absence even of a grille for lady visitors.

The DIRECTOR read a paper on cup and ring carvings. He referred to the distribution of these carvings over Europe, Asia, Africa, America, and Oceania, and gave a summary of the papers on the subject which had been read before this Society and elsewhere.¹ For the purposes of his paper he divided the subject into four sections, each dealing with one of the forms which the cup and ring carvings are considered to take, namely:

I. Natural Forms due to the action of rain and sleet.²

II. Casual Forms, the result of 'the laborious idleness' of the savage or primitive man.³

III. Astronomical Forms in which certain constellations are thought to be represented. This theory has been very fully dealt with by Dr. Marcel Baudouin, general secretary of the

¹ Dr. William Bromet in *Arch.* xxxii, 443, 444; Dr. W. C. Lukis in *Ibid.*, xxxv, 250, 253; Col. J. H. Rivett Carnac in *Journ. of Royal Asiatic Soc.*, 1903, pp. 517-43; Mr. W. Paley Baildon in *Arch.* lxi, 361-80.

² Cf. *Bulletins et Mémoires de la Société d'Anthropologie de Paris*, série vi, t. vii, p. 2; and Douglas in *Journ. of Royal Asiatic Soc.*, 1903.

³ Cf. *Proceedings*, xxii, 449; *Journ. Royal Anthropol. Inst.*, vol. x; *Bureau of Ethnology*, 10th Rep., p. 199.

Prehistoric Society of France,¹ whose researches have led him to the conclusion that primitive man observed the group of stars in the constellation Taurus, since called the Pleiades, the disappearance and reappearance of which define the sidereal year. Baudouin notes that early observations on these matters are recorded in history among the Egyptians and the Chinese, and occur also in ancient literature. Proto-historic folklore is full of this knowledge, so is classic antiquity. The cup-marked stones which Dr. Baudouin cites as representing the constellations are thirteen, of which eight represent Ursa major, one (in Switzerland) Ursa minor, two Draco, and two Taurus. He gives instances of the occurrences of carvings which he suggests represent the Pleiades, and speculates as to the age of these stones, assigning them to periods from 12000 B.C. to 8000 B.C. He qualifies his conclusions by stating that we know nothing of the appearance of the constellations as they presented themselves to the eyes of the people of the neolithic period. The weak points in the theory are that we have no evidence of the faculty of Early Man for accurate observation and exact record; no certainty in the generality of cases that we possess precisely correct observations of the existing condition of the carvings, and no means of knowing how far that corresponds with their original condition; and, finally, that the astronomical calculations upon which he depends must necessarily be somewhat uncertain when carried back over such vast intervals of time.

Mr. W. P. Brewis, F.S.A., in a communication to the author of the paper, although agreeing with the attribution of an astronomical origin to the carvings, criticizes the dates assigned by Dr. Baudouin on the ground that at a much more recent time the face of Scotland and the north of England was scored by a vast icefield, obliterating any such works of man. Mr. Brewis's theory is that the carvings are sundials, not to tell the time of day but to ascertain the length and seasons of a year. In Northumberland Mr. Brewis remarked that almost all the cup and ring stones are situated near but outside Bronze Age camps and most of the cup and ring marks have an added channel cut from the central cup in a radial line which cuts the rings, thus forming them into penannular rings, typical objects of the Hallstatt period.

IV. Religious Forms such as are still prevalent in Asia. In support of this theory reference is made to the works of Colonel Rivett Carnac where attention is called to the early methods of recording and conveying ideas by means of knotted cords, and the suggestion is made that some of the cup marks might be the

¹ *Bulletins et Mémoires de la Société d'Anthropologie de Paris*, série vi, tome vii, pp. 25-103.

reproduction on stone of these ideas. We have a modern instance of this idea in the Morse telegraph and in military messages. Given the cup as a centre the circle is readily made. Mr. Paley Baildon's theory that the cup and ring carvings were made for ghost houses was also quoted. Where, however, the cup carvings are found upon stones that form part of a full-sized monument such as a cromlech, it would seem as if that monument itself and not the small carvings upon it would represent the abode of the ghost or soul.

The author's conclusion was that many of the theories as to the origin of these carvings might be accepted as not wholly inconsistent with each other. The theory of the vacant mind moving the idle hand is probably that which will best fit in with the majority of the carvings, for they show little purpose and hardly a trace of imagination. Like all primitive art they consist of a faithful copy of things as they exist. The astronomical theory takes us a step farther, for it shows close observation of sidereal phenomena and leads us to fancy that at this point there must have been some process of intellectual growth going on, but this is limited to a certain select number of designs. No theory covers the whole ground, and he was persuaded that it is not in one direction alone that we are to seek for an explanation of the instinctive processes which from the beginning have operated on mankind.

Mr. BAILDON said Sir Edward had disarmed criticism by his complimentary references to the speaker's theory on the subject. An astronomical origin had long ago been suggested by Tate and Simpson and criticized by Mr. Romilly Allen. He doubted the wisdom of identifying the marks with any particular constellation: such identification was only too easy but rested on no solid basis. However important the Pleiades might have been, it was curious that no use was made of the moon, especially as the cups and rings were evidently produced for a purpose. In his opinion no single explanation covered the whole ground, though there were hopes of ascertaining the basic idea of the whole series. Their repetition on the same stone and in many parts of the world was not the only problem: there were other patterns, such as the 'ladders' at Ilkley, the 'beehives' and axes of Brittany, which were evidently later developments and did not easily fit into the soul-house theory. The words written about the mandrake by Picard in 1733 still applied to the cup-markings: '*pratiques superstitieuses qui ont séduit les peuples et embarrassé les savans.*'

Sir MARTIN CONWAY had seen cup-markings in the Upper

Indus valley, where also a great many rocks were entirely covered with likenesses of animals, especially the ibex. It was impossible to consider them the work of idle shepherds as the country was absolutely desert and no sheep could find a living. It might have occurred to any one that they represented constellations, but any group of dots might be matched in the heavens. Such cup-markings were found all over the world, but those of the Indus were in some ways peculiar. The carvings were on boulders that were seldom covered with flood-water and acquired a russet brown colour: some of the cups were russet like the rest of the stone, others were not so dark, and some were carved across others. There might be a difference of date but the style was the same, showing that the habit of bruising rocks in that way was of very old standing. There was a multitude of carvings in the Maritime Alps that might very well be attributed to a pastoral folk; and in Bolivia there were plenty of cup-markings and carvings of animals, but the two groups were never associated, except in the Upper Indus, where examples went farther into the mountains than any one could profitably follow them. He did not think the proposal to identify the groups with any constellations likely to carry conviction to an impartial mind.

Mr. DALE remarked that the Pleiades (which were only part of a constellation) played an important part in Sir Norman Lockyer's theories, but doubted if the cup-markings could possibly be connected with them, as the more obvious sun, moon, and five planets would have been utilized in preference. The Pleiades were close to the ecliptic and could be seen all over the world at certain times of the year. It should be remembered that during the period in question Polaris was not the polestar, and owing to precession of the equinoxes, there had been a change of one whole sign since the constellations were named.

Rev. C. SWYNNERTON had seen cup-markings on great boulders in Black Mountain, Upper Indus, but knew of only one instance of two cups intersecting. Below Atak a large boulder of granite was covered with cup-markings of ordinary size, though the rock did not occur within 60 miles of the spot. Another had the cups arranged on the upper surface; and in a narrow valley off the Indus he had found a solitary cup on an enormous boulder. In a desolate watercourse to the east of Atak was a slope of schist with an outline picture of deer hunted with leopards.

Sir HERCULES READ referred to Mr. Baildon as the *causa causans* of the paper. On such a mysterious question he could not regard Dr. Baudouin as a convincing authority, and was glad to hear that his suggestions were to be treated with the greatest reserve. A date of 13000 B.C. would bring the cup-markings into the palaeolithic period where no one would seriously think of putting them. Sir Martin Conway had rightly said that the carvings occurred all over the world, and it was curious (but hardly unexpected) that the best were found in Ireland. They were certainly not older than neolithic, if as old, though it was rash to date any cosmopolitan group of antiquities. The astronomical theory was not the simplest, and in such matters the simplest explanation was likely to be correct.

Mr. BREWIS mentioned that the late Canon Greenwell's first paper dealt with the cup-markings of Routing Lynn, near Wooler, Northumberland, but was lost in transit to the printers and never published. A description was to be found in J. C. Bruce's *Incised Markings on Stone*, plates I-IV.

The PRESIDENT alluded to the *Book of Job*, ix, 9 and xxxviii, 31 as testimony to the importance of the Pleiades in early astronomy. He agreed with those who had joined in the discussion and with the paper itself except on certain points, which could not be cleared up till fresh evidence was available. Rocks and boulders had played a very important part in ancient religions and served as fetish forms for bringing down spirits. In order to placate a spirit it was natural to make offerings and these were naturally placed in cup-like receptacles. In Egypt and Crete there were large stones with cups in the face of them for libations. When searching for remains of heathendom in Finland and Lapland he had seen boulders with special religious significance: one had a tree-trunk cut into notches, with a cup-shaped receptacle at the top for offerings. Once the custom was established a natural result was the cutting of hollows in the upright face of a stone to show its sanctity, and similar markings might be seen in Christian churches. Improvements on the simple cup-pattern were sure to follow, and some of the carvings were evidently intended for huts, recalling the tectiform designs of the palaeolithic Cave period. He thought the explanation would not be found in the heavens but in some cult closely associated with such ancient stone-blocks or betyls.

Sir EDWARD BRABROOK said the discussion had practically supported the view with which the paper had been written.

No one explanation could be found for all the phenomena, and Mr. Baildon would not claim that his theory of soul-houses covered the whole ground. The practice was based on a large number of beliefs and customs, which might include deductions from the different appearance of certain stars at various times of the year.

Thanks were ordered to be returned for these communications.

THURSDAY, 28th FEBRUARY 1918.

Sir CHARLES HERCULES READ, Knt., LL.D., F.B.A.,
Vice-President, in the Chair.

Notice was again given of the ballot for the election of Fellows to be held on Thursday, 7th March, and the list of candidates to be put to the ballot was again read.

REGINALD A. SMITH, Esq., F.S.A., read the following paper on prehistoric and Anglo-Saxon remains discovered by Capt. L. Moysey at Howletts, near Bridge, Kent:

From notes supplied by Capt. L. Moysey, to whom the present exhibition of Jutish arms and jewellery is due, it is clear that yet another cemetery has been discovered south-east of Canterbury. A gravel pit was opened about five years ago near a house called Howletts between Bekesbourne station and Littlebourne, on a wooded knoll forming part of a spur extending down to the marshes bordering the Little Stour. This Ludenham (or Luddington) wood, about 3 miles east by south of Canterbury Cathedral, is in the old parish of the Wells now joined to another and known as Ickham and Wells, the latter name no doubt referring to the many springs in the neighbourhood. The villagers assert that there was once a town on the site of the wood in question, and on the western side of the gravel pit are the foundations of a building—two walls at right angles, consisting of thick masses of soft mortar reinforced with lumps of chalk and flints; but the date of construction is problematic.

The Anglo-Saxon (or perhaps more truly Jutish) graves are scattered indiscriminately over the whole area at present opened

up, and are usually east and west. They have been dug about 4 ft. from the surface and perhaps 2 ft. into the gravel. Some of the finds have passed into the Royal Museum at Canterbury, but the locality is apparently not stated on the labels. The differences noticed by Capt. Moysey in the grave-furniture are mainly due to the sex of the interred: arms and armour denoting the graves of men (mainly at the north end), and jewellery, beads, and glass those of women (mostly on the south). Some were found to contain nothing, but these were not confined to any particular part of the pit.

In addition to the graves, potsherds of crude black ware are found scattered about, usually in the bottom of the surface soil, some containing fragments of bone apparently calcined. It would be rash to conclude that the Anglo-Saxon conquerors of Kent practised cremation here, though there are one or two cases in the county;¹ and it is far more likely that these are the burnt remains of Romans or Romanized Britons who died during the first two centuries of the Roman occupation. Another race, with different funeral rites, disturbed them in the sixth century, for that is the period of most of the specimens exhibited, which agree with those already discovered in the neighbourhood, and as usual point to a somewhat close connexion with the opposite coast of France.

The neighbourhood has long been known as the richest in England from this point of view, but the present cemetery seems to have been unrecorded till now, being easily distinguished from that on Patricxbourne Hill in Bifrons Park, excavated in 1866. Godfrey Faussett records that about a hundred graves were opened in 1867 on the slope of the hill overlooking the Lesser Stour and about $\frac{1}{4}$ mile up-stream from Patricxbourne Church. Bryan Faussett investigated a site between Bekesbourne and Adisham in 1773, 4 miles south-east of Canterbury; and his finds at Sibertswold or Shepherd's Well (parish of Barfreton) are again farther south. On the west side of the main Canterbury-Dover road may be mentioned the cemeteries or barrows in Bourne Park (Bishopsbourne); on Kingston Down and Breach Down; and all are summarized and mapped in the *Victoria History of Kent*, vol. i, pp. 342-51.

Prominence must be given to the only three cases of associated objects, and regret expressed that the circumstances in which the work was carried on prevented any grouping of the remainder according to graves. A complete inventory of the graves disturbed would have thrown much light on the relative chronology.

¹ See on this point Baldwin Brown, *The Arts in Early England*, vol. iii, pp. 583, 695, 726.

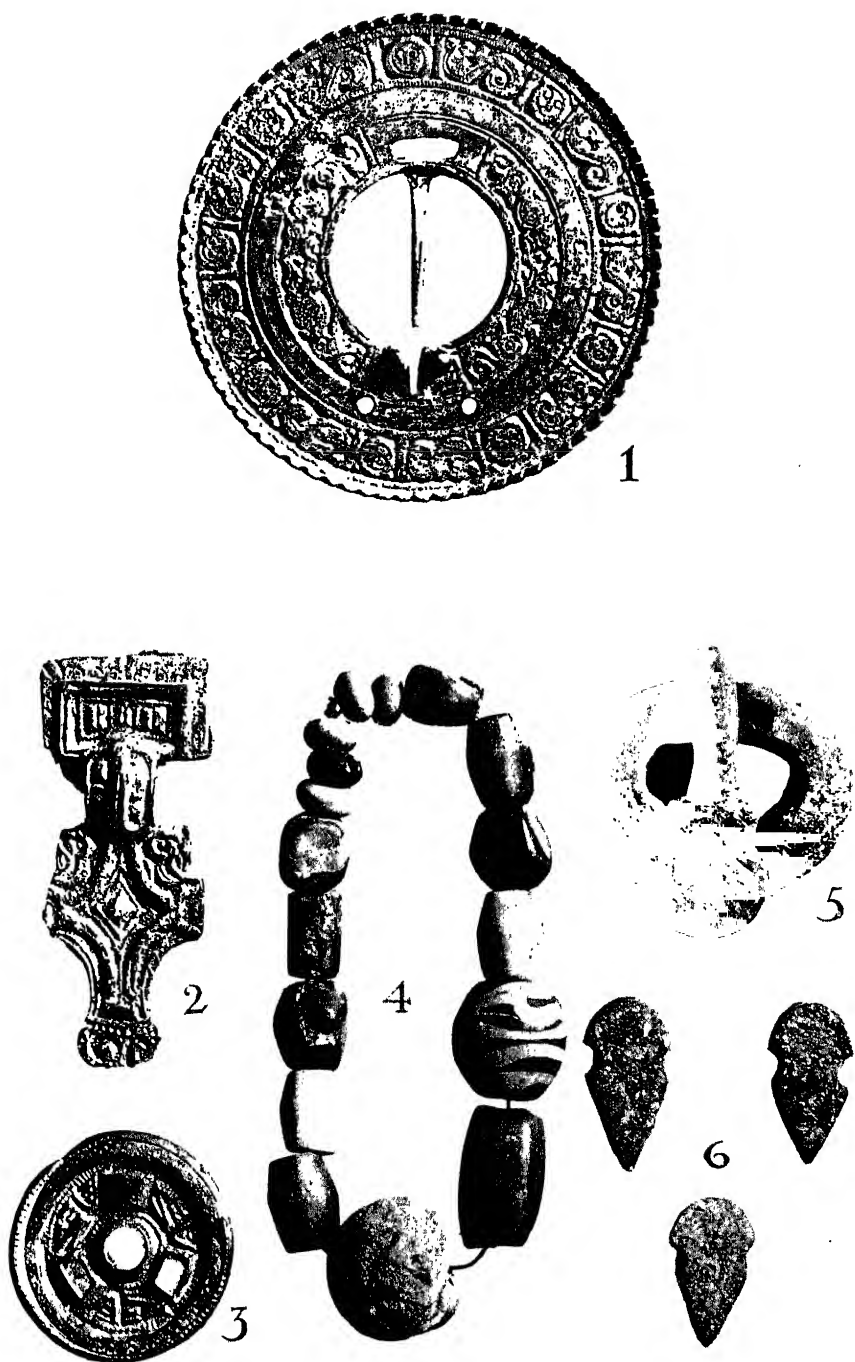
One grave contained a gilt square-headed brooch (pl. I, fig. 2) of characteristic Jutish form, though a stray pair has been found at Freckenham, Suffolk (Cambridge Archaeological Museum). It is only 2 in. long and of the same category as several from the adjoining cemetery of Bifrons, from Sarre, 6 miles to the north-east (British Museum), and from Chessell Down, I.W. The present specimen has a lozenge design below the bow, a cruciform pattern being more common in that position; and the two square panels in the head recall the garnet settings of some larger examples. The heavy gilding remains in some places intact, and the date is about A.D. 550.

Associated with this was a circular brooch of silver (pl. I, fig. 3) of normal pattern, 1.1 in. in diameter, with one of three 'keystone' garnet settings remaining and a white centre of some undetermined material that has puzzled expert chemists.¹ With these were a bronze buckle (pl. I, fig. 5), the tongue having the usual shaped base, 1.4 in. long, and three shoe-shaped rivets (pl. I, fig. 6), 0.8 in. long, that may have belonged to the same belt. Such rivets have elsewhere² been found in position fastening the leather to the buckle, and they occur on both sides of the Channel, in England chiefly in the Jutish areas, but also as far afield as Brooke, Norfolk (British Museum). As this was evidently a woman's grave, the furniture includes a string of sixteen amber and glass beads (pl. I, fig. 4) and, apparently as a centre-piece, a perforated fossil from the chalk (*Coscinopora globularis*), such as was used for the same purpose in palaeolithic times, groups of them, perforated and evidently collected on purpose, having been found in Pleistocene gravel near Bedford. This interment can be assigned to the second half of the sixth century.

The second case of association throws no fresh light on the principal relic, a magnificent quoit-shaped silver brooch (pl. I, fig. 1), 2½ in. across, which was found with a plain coiled silver finger-ring now broken to pieces. The brooch almost rivals the Sarre specimen (*V. C. H. Kent*, i, 361; Baldwin Brown, iii, pl. XLIX, fig. 1), and like that masterpiece, evidently had movable birds or other figures fastened in the round holes near the point of the pin. The enlargement (fig. 1) shows all the patterns engraved on the face: a pair of animals confronted with open jaws, on the inner zone, and round the rim a single animal with head turned back alternating with what is unmistakably

¹ Professor Baldwin Brown has wrestled with the problem but has got no definite results (*The Arts in Early England*, iv, 544). Compare two Ipswich specimens in *Proceedings*, xxi, 242, 247.

² F. Moreau, *Collection Caranda* (Aisne), ii, pl. 10 (N.S.), fig. 8; and Boulanger, *Mobilier funéraire*, pl. 26, fig. 25.



PL. 1. ANGLO-SAXON JEWELLERY FROM HOWLETT, NEAR BRIDGE, KENT (1)

a human face. For parallels to the animal motives see Prof. Brown's pl. CLIV, and a circular bronze brooch with blue cabochon centre from Faversham (Gibbs Collection, British Museum).

A third grave, evidently that of a warrior, had the head laid at the west end, a piece of the jaw being found in position. On the left side lay an iron sword $36\frac{1}{4}$ in. long, the point towards the feet, with remains of a wooden scabbard adhering to the blade. On the right, point upwards, was a spear-head originally about 22 in. long with leaf-shaped blade and the socket long in proportion,¹ not split as usual in the Anglo-Saxon period. Near the head was a shield-boss $7\frac{1}{2}$ in. across and $3\frac{1}{2}$ in.

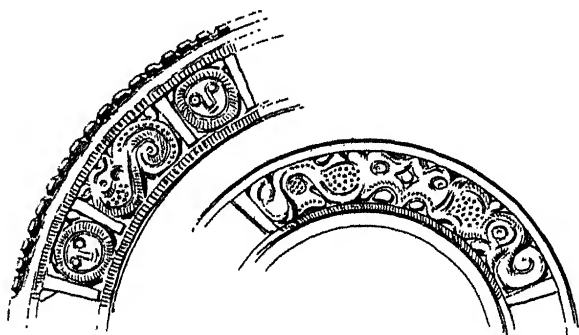


Fig. 1. DETAILS OF SILVER QUOIT-BROOCH, HOWLETT'S, KENT (ENLARGED).

high which originally had nine round rivet heads on the rim, and is of a common type. A small iron ring, perhaps the loop of a buckle, completed the grave-furniture, unless the grip of a shield also came from this grave. It is 6 in. long and retains part of its wooden filling.

The other weapons collected from this cemetery include some of ordinary types: two spear-heads, measuring $22\frac{1}{4}$ and 14 in., with ordinary blades and split sockets. A small axe-head, $3\frac{1}{2}$ in. long, with oval hole for the haft and spreading edge, is quite unusual, and a curious iron rod, 9 in. long, with hooked end, resembles one from Little Wilbraham, Cambs. (*Saxon Obsequies*, pl. 40). Smaller iron objects comprise three knives, 5-8 in. long. A plain pot, almost globular, evidently an accessory vessel, is $4\frac{1}{4}$ in. high and may be compared with one from Feering, Essex (B. Brown, *op. cit.*, iv, pl. CXXXVIII, 8, p. 505). The complete preservation of a delicate green glass tumbler

¹ This form occurred at Sarre (*Arch. Cant.*, vii, pl. xiii, grave lxiv), but the nature of the socket is not stated.

could hardly be expected, but its general form is known (fig. 2), one found six miles off at Sarre being illustrated by Prof. B. Brown (iv, pl. CXXVII, 3, p. 486), and dated about 550. The fragments give a diameter at the mouth of 3.6 in.; white threads wind round the body and there is a knob at the base.

Two other glass vessels were found, both complete and of the same pale green colour. They are pots of rather squat form—



Fig. 2. GLASS BEAKER (RESTORED), HOWLETT'S, KENT ($\frac{5}{8}$).

one (D. 3 in., H. 2.2 in.) with three threads round the neck, and the other (D. 2.5 in., H. 2.3 in.) with a single thread. Both have a slight 'kick', and are rather unsymmetrical.

A bronze rod, 4.5 in. long, is hooked (perhaps accidentally) at one end, and expands like the blade of an oar at the other, with two rings inserted in holes on one edge: perhaps used as a hair-pin with spangles like those on a pin from Leagrave, Beds. (*Proceedings*, xxi, 61, 63, with refs.). There are also the white-metal tongue and part of the hoop of a buckle of the same type as that in the first grave, and a broken pair of bronze tweezers,

2.3 in. long. Beads were not numerous, only 13 more being collected—8 of amber, 4 of glass, and 1 of stone.

The next two items are unusual in Jutish graves and date probably from the end of the fifth century, perhaps before the main invasion of Kent. One (pl. 2, fig. 10) is $\frac{1}{4}$ in. shorter than a very similar specimen described below from Islip, Northants. The top knob with split shank remains in place, but the lateral knobs, not being in one piece with the head, have been lost. It is a small and slender specimen of the 'long' brooch generally found in Anglian districts, but a few are known from Kent, all of small dimensions, one coming from the adjoining cemetery of Bifrons.¹

The other 'long' brooch (pl. 2, fig. 8) measures 3.1 in., but the foot is imperfect: at the head of the pin are remains of cloth. The top knob is in one piece with the head, but the others were loose and are missing. The bow is peculiar on account of its great central width and angular sides,² more in the style of Norway and Sweden than of Denmark or Slesvig.

Serpentine, or S brooches, are not confined to Kent, though they are often found on the opposite side of the Channel (as at Pontoise, in British Museum). The present example (pl. 2, fig. 5) is 1.3 in. long and is ornamented with ring and dot pattern, the ends suggesting animal heads. A similar specimen from Cambs. is figured by de Baye (*Industrial Arts of the Anglo-Saxons*, pl. iv, fig. 7); another from Brochon, Burgundy, by Baudot (*Sépultures des Barbares*, pl. xxvi, fig. 20).

A circular brooch (pl. 2, fig. 1), 1 in. across, with cruciform pattern and garnets in the centre and at the ends of the arms is a common Frankish type, as Boulanger, *Mobilier funéraire*, pl. 21, fig. 8.

A circular keystone brooch (pl. 2, fig. 7) of silver is smaller (0.9 in.) than that already mentioned but otherwise similar. Again the white centre has survived, with three foiled garnets radiating from it; and a groove in the central setting probably held a gold ring as in the square-headed brooch described below. Professor Brown assigns three specimens (his pl. XXXVI, fig. 10 and pl. CXLVI, fig. 5, right and left) to the middle of the sixth century or earlier.

Definitely earlier in type is a pair of 'radiated' bronze brooches (pl. 2, fig. 3), 3.1 in. long, with five flat knobs bearing garnets round the semicircular head. The bow and foot are the same breadth throughout and the end is almost square. Along both

¹ B. Brown, *op. cit.* iii, pl. xxxv, 10, and pl. xli, 2 (late fifth century). Their occurrence is discussed on p. 718.

² Cf. Schetelig, *Cruciform Brooches of Norway*, figs. 45, 55, 72, 91, 92, etc.

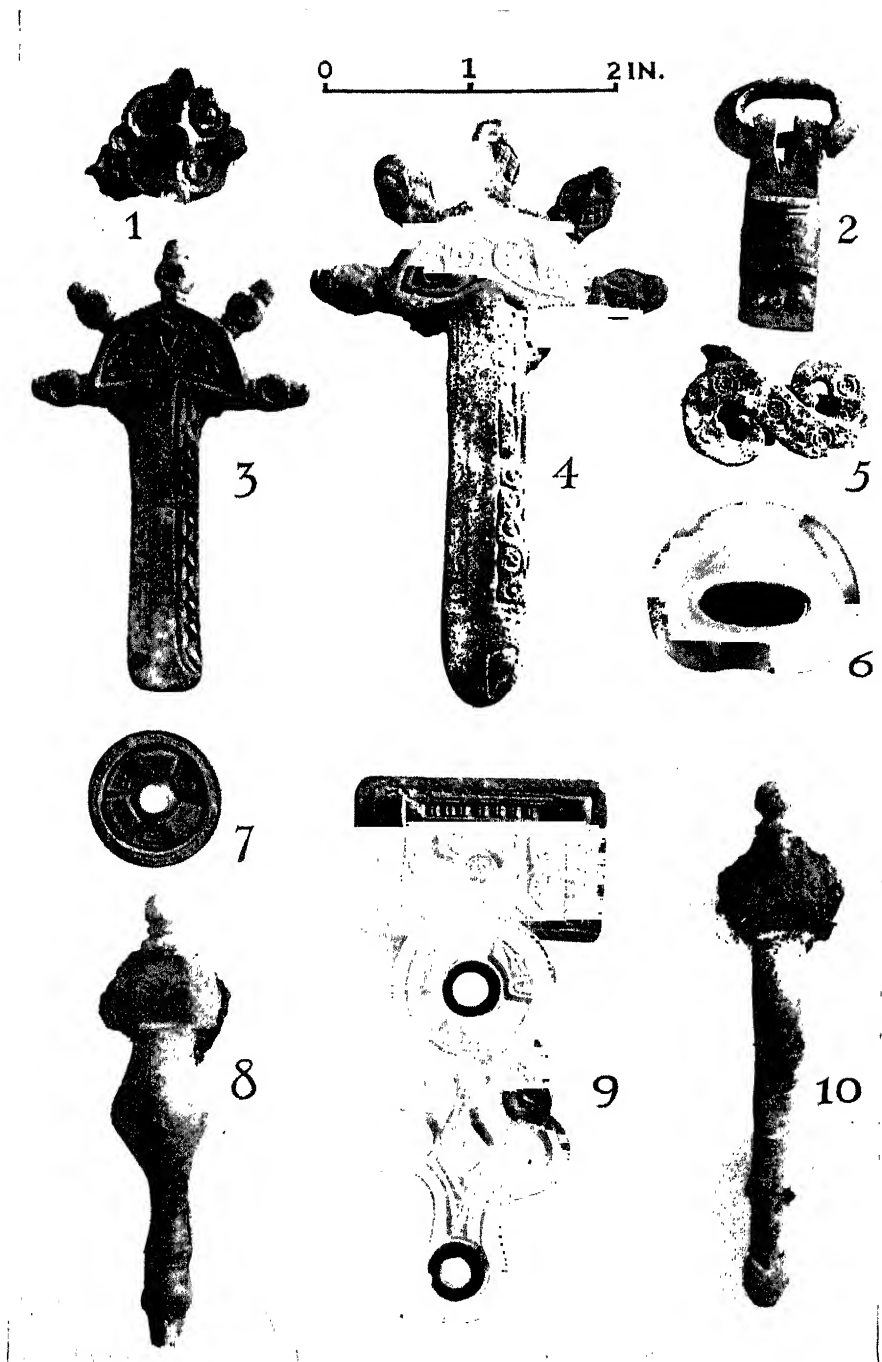
edges is a zigzag pattern, repeated round the head: the bow as usual is much depressed. The garnets are missing from the two lowest knobs in each case.

In western Europe this type belongs to the late fifth century, and, though rare in England, is by no means confined to Kent. A parallel from Dovercourt is published (*V. C. H. Suffolk*, i, 329, fig. 1 on coloured plate), and Professor Brown illustrates two from the adjoining cemetery of Bifrons (iii, pl. XXXV, figs. 1 and 4).

The remaining specimens from the cemetery are the property of Mr. Charles Wickenden and include some of the best. The radiated brooch (pl. 2, fig. 4) is 4 in. long and differs from the last in having lozenge (or snake's head) knobs round the head, running scrolls on the front, and an animal-head terminal to the foot, characteristic of central Europe. On the pin-head at the back are remains of the cloth to which it was attached. The type is also represented in Burgundy (from Brochon in Baudot's *Sépultures des Barbares*, pl. xxvi, fig. 10), but is more plentiful farther east and south-east. Dr. Salin figures various brooches with similar knobs in *Die altgermanische Thierornamentik*, e. g. figs. 58 (Bologna) and 78 (Côte-d'Or).

Yet another case in which the white inlay has survived is a fine silver brooch with square head and jewelled disc on the bow (pl. 2, fig. 9). Its length is 3.7 in. and, though broken across, the specimen is complete. The head of the pin, behind the head-plate, is pear-shaped and ornamented in a manner recalling that of the Kingston brooch (*Inventorium Sepulchrale*, pl. i), found only four miles to the south. It should be noticed that the disc on the bow takes the form of a keystone brooch, intermediate in size between the two specimens from this cemetery; and the central garnet is surrounded by a ring of white material, with a dividing ring of gold. The same applies to the setting at the end of the foot; but the gold inlaid ring is missing from the white substance in the head, between two triangular garnets, and on the lobes of the foot a gold ring is let into both garnets. The head has foiled garnets at the upper angles, and the whole surface was originally gilt with niello edging. It belongs to the same class as those figured by Professor Brown from Bifrons (pl. LXII), Richborough and Gilton (pl. LXV, figs. 2 and 3); but more evidence is required to determine the sequence. The Howletts example is probably about A.D. 600.

A bronze buckle (pl. 2, fig. 2) with plate but no pin, entire length 1.8 in., has three small rivets for securing the leather between two thicknesses of metal, and above them is a curious semi-cylindrical projection that is seen also on a Jutish buckle with square hoop from Chessell Down, I.W. (*V. C. H. Hants*, i,



Pl. 2. ANGLO-SAXON JEWELLERY, FROM HOWLETS, NEAR BRIDGE, KENT

390, fig. 1 on coloured plate). Buckle-plates with similar additions have been found at Faversham, Kent (Gibbs Collection in British Museum); on Bowcombe Down, I.W. (*Jour. Brit. Arch. Assoc.* xvi, 255, pl. XX, fig. 2), and, since the paper was read, on the Howletts site.

Another variety is a massive crystal buckle-hoop (pl. 2, fig. 6), 1.4 in. broad, sometimes found abroad as in Dépt. Marne (Morel Collection in British Museum).

The presence of definitely early types and the absence of highly ornate circular brooches, such as mark in this locality the finest period of pagan Anglo-Saxon art, indicate that the cemetery was in use during the late fifth and early sixth centuries. The orientation of the graves is not decisive; and as St. Augustine did not arrive in Kent till 597 it is clear that these are not the graves of those converted by the Roman mission, but on the other hand it is possible that the east-and-west position was inherited from late Romano-British times, when there is reason to believe that the Celtic form of Christianity was widely accepted by the native population of south-eastern England. St. Patrick was dead probably before the first burial on this site, and Queen Bertha came from France perhaps after it was closed; but between those two dates there may well have been a revival of Christianity in a district so closely connected with France.

This pit has not only added to the Anglo-Saxon riches of Kent but has yielded to Captain Moysey (whose interest in it was at first purely geological) a number of palaeolithic implements, mostly in good condition and of early type. He failed to trace any definite terrace-formation on that side of the Little Stour valley,¹ but the 50-ft. contour is just below the gravel pit and the 100-ft. contour just above it. Beside the road, 50 yards from the pit, is a bench-mark at 79 ft. o.d., and the stream is here about 20 ft. o.d. About three-quarters of an acre has been excavated, giving a face of about 20 ft. of coarse false-bedded gravel with occasional seams of sand. The main constituent is subangular flint of very variable size, from masses about the size of a football to small pebbles, most of them still retaining the white crust. A few well-rounded pebbles are met with, and also occasionally fragments of indurated Thanet sand, with fossils that cannot be determined. The gravel is deeply stained with iron, and in most parts is

¹ Called in this neighbourhood the Nailbourne, as the stream is often lost below Bridge and rises again half-way between Bekesbourne and Littlebourne, much in the same way as the Mole sinks for a while in the chalk south of Leatherhead (W. Whitaker, *Geology of the London Basin*, 1872, p. 392, and Rice Holmes, *Ancient Britain*, 679).

hard to work owing to induration of the ferruginous matrix. It is worked down to a floor of sand and the diggers state that there is no gravel beneath; but a cottage-well 30 yards from the pit gives 25 ft. of material before the chalk is reached. This may be sand and gravel or undisturbed Thanet sand.

Implements occur all over the area and, according to the workmen, always on the floor of the workings; but subsequent inquiries proved that some were found at various depths from the surface, and two were in a bed of sand at least 3 ft. above the bottom of the pit.

Twelve implements are exhibited, a number sufficient to give character to the pit, and a particularly good yield considering the short period of observation. There must be many more awaiting discovery, but the present series opens up more than one problem. In the first place there is an evident mixture in style and condition, and at once the question arises whether the stratification warrants a division into two or more periods or whether the gravel and other materials were deposited without a break, and must be dated by the latest contained implement, on the supposition that earlier specimens have been derived from other sites and swept along the valley. Prolonged study of the sections given from time to time can alone decide the first question, but the second is answered as soon as the implements are examined. By all the rules (which have long been formulated and seem to be justified by successive discoveries) at least two industries are represented, named respectively after Chelles and St. Acheul, and in this case it is the earlier that are unrolled and presumably *in situ*, while the ovate of St. Acheul type is considerably rolled and must be regarded as a derivative. A single specimen is made from a flake possibly of a third and later period, but it is clear that there were two stages at least in the deposit of this 20 ft. of gravel, one corresponding to the Chelles period and the other being late St. Acheul or possibly Le Moustier, no later date being regarded as possible for gravel in that position.

The following list gives all the available details of the twelve specimens obtained by Captain Moysey and figured on pl. III:

1. (Fig. 2) Brownish hand-axe with patches of white crust and the butt left rather rough; crusted lateral butts, and good straight sides, not curved or zigzag. L. $6\frac{1}{2}$ in. From a bed of grey clayey sand, 3 ft. above floor of pit.
2. Similar, but darker brown, with similar patches of crust; thick lateral butt and base, one side zigzag and the other with slight S curve. L. 6.1 in.
3. Part of larger but similar hand-axe, both ends wanting; mottled



Pl. 3. FLINT IMPLEMENTS FROM THE GRAVEL AT HOWLETT'S, NEAR BRIDGE, KENT

yellow to grey, good flaking with waved sides. L. 5 in. Found about 4 ft. above the pit-floor, and broken by the workman.

4. Hand-axe, yellowish grey to black, with thin upper part and notch beside the point; one face nearly flat, the other convex, straight sides hardly zigzag, and two crusted lateral butts. L. 7 in.

5. Hand-axe, similar but ochreous with pinkish patina, especially on one face, which is nearly flat; thickest at the butt with crust, and one side with S curve, the other straight. L. 6.9 in.

6. Imperfect hand-axe of same type, speckled brown and black and grey patina at point; some curved white lines, slight notch beside point, one face flat, and crust on butt. L. 5.2 in.

7. (Fig. 3) Hand-axe with heavy butt and long tapering point, of the *feron* type, the point broken; pale ochreous with one face creamy pink, an old thick white patina on the base and the two lateral butts, the sides straight, barely zigzag. L. 7 in.

8. (Fig. 4) Hand-axe more of the dab-fish (*linunde*) type, with bluish grey and whitish faces respectively; rather flat with nearly straight and even sides, and rather rolled. L. 6.5 in.

9. Irregular hand-axe of cherty flint, deeply ochreous, with crust patches on one face and the butt; thin and slightly water-worn, with fair sides. L. 5 in.

10. Roughly made hand-axe, subtriangular, of yellowish brown cherty flint, with much crust on one face; rather thin, fair sides, and rather rolled. L. 3.6 in.

11. (Fig. 1) Ovate implement, much rolled, with creamy patina and battered sides. L. 4 in.

12. (Fig. 5) Flake-implement with small flat striking-platform and fair bulb; grey to white, used on both edges, the bulbar face plain. L. 4 in. 'Obtained from made-earth on the surface of the quarry.'

Except where otherwise stated the implements have their edges only dulled, not injured by rolling in a water-course, and the presumption is that they were made not far from the spot where they were found. The first eight are typical of the Chelles period, and most of them could be matched from the lower gravels of the 100-ft. terrace at St. Acheul, near Amiens. Though found in considerable numbers half a century ago, these are now rare, but they undoubtedly came from the base of the quaternary deposits of the second or 30-metre terrace at 143 ft. o.d. (100 ft. above the sunk channel of the Somme at that point: see table in *Archæologia*, lxiv, 197). On the other hand the only specimen (no. 11, fig. 1) which can safely be assigned to the St. Acheul period is heavily rolled and must have travelled far. This is not the only site which suggests that the Chelles implements were soon covered up once for all, and that later implements have been subjected to considerable disturbance, owing to the rearrangement of superficial beds by torrential action. The causes and date of such severe flooding are at present undetermined, and geologists are chary of admit-

ting glacial action south of the Thames. If the waterworn condition of the ovate is due to the action of the Little Stour, the river must have shrunk considerably since Le Moustier times, for that is the date suggested by no. 12 (fig. 5), which may come from the last deposit of flood loam (brick-earth) on the gravel, about 60 ft. above its present level.

The geological aspect of palaeolithic finds in Kent needs further consideration and it is unfortunate there is no geological memoir of the county. The Drift edition of the 1-in. map was published in 1875, and shows large patches of gravel and brick-earth on the lower tertiary deposits, extending from Faversham to Stourmouth, and covering the lower slopes of the chalk downs. South of the tertiary beds the courses of the Great Stour from Wye, and the Little Stour from Lyvinge, are marked by a thin line of gravel and brick-earth, no doubt due to drainage from the dip-slope of the chalk; but such action does not satisfactorily explain the large sheets farther north, often at a distance from any river, as in Blean Forest. Nor has the Reculver problem been properly faced. It has long been admitted that many implements (some of very early type and quite unrolled) have come from the gravel on top of the sea-cliff there, and a fluvial origin for the deposit has been regarded as possible, in view of the former existence of voluminous rivers cutting off Thanet from the mainland. But even if a neighbouring river had been torrential enough to lay down the large patch of Reculver gravel 50 ft. above the present sea-level, it is fairly obvious that no river of such volume ever flowed along the valley of the Little Stour, and on that hypothesis one site throws no light upon the other. It has been held that the gravel at Reculver, which stretches inland for two miles and has an average width east-and-west of one mile, belongs to the 100-ft. terrace of the Thames, and it may in fact be that height and more above the sunk channel of the river. But that theory does not explain the continuous stretch of gravel ten miles long roughly parallel to the Great Stour, from near Dunkirk (five miles west of Canterbury) almost to Chislet, as the deposit is two miles from the river at Chilham, and can only be explained in conjunction with the patches in Blean Forest still farther from the river. The geological map, however, suggests a close relation between these isolated patches of gravel and brick-earth on comparatively high ground, and, apart from preconceived ideas, one would readily assume that they originally formed part of a vast sheet, spread over watershed and valley alike perhaps at a time when the rivers had not cut so deeply as at present. There is no valid reason for supposing that palaeolithic man was confined to the river valleys, and the undoubted fact that most

of his implements are found in valley gravels may be explained by the greater thickness and economic value of gravel on the valley slopes. But discoveries of implements on plateaus and watersheds are rapidly increasing, and specimens from undisturbed gravel at the top of the New Forest¹ call for a different explanation.

POSTSCRIPT.—Since the above paper was written, Captain Lewis Moysey, of the R.A.M.C., has come to a tragic end in the service of his country. No one present at the meeting was aware that he went down two days before in the hospital ship *Glenart Castle*, which was criminally torpedoed in the Bristol Channel. Previous to the war Dr. Moysey had long been in practice as a medical man at Nottingham, and was a very keen palaeontologist, specializing in the rarer fossils of the coalfield around his home. Not only did he acquire an exceptionally fine series, both of plant and animal remains, but described them in a number of papers, especially before the British Association. A few weeks before his lamented death he handed over as gifts his plant remains to the University of Cambridge and his animal fossils to the Geological Survey. The author is privileged to offer as a slight tribute to his memory this account of the doctor's researches in another field.

REGINALD A. SMITH, Esq., F.S.A., read the following paper on Anglo-Saxon antiquities discovered at Islip, Northants, and exhibited by S. G. Stopford Sackville, Esq.:

During excavations on a large scale for ironstone at Islip near Thrapston, Northants, on the property of Mr. Stopford Sackville, a number of ancient burials have been disturbed and antiquities recovered which, on the suggestion of Sir Hercules Read, have been kindly sent to the British Museum for examination, and are now exhibited to the Society by permission of the owner. Among them are two well-preserved Roman urns that may have been used as cineraries and, if so, are three or four centuries earlier than the bulk of the relics, which date from the pagan Anglo-Saxon period and may be regarded as Anglian of the sixth century. Of the two urns one is of black ware with almost globular body and contracted neck with spreading lip, the height being 6.9 in. and the diameter 6.3 in. The other is of the same general form but with higher shoulder and of grey ware with rings round the body, the height being 10.9 in. and diameter 10.2 in. Both have rather narrow mouths for use as cinerary urns.

The Anglian pottery includes two plain urns with slight

¹ *Proc. Geol. Assoc.*, xxvi (1915), p. 6.

shoulder and wide mouth of the usual soft brown ware, the diameter being in both cases greater than the height (II. 4.2 in.,

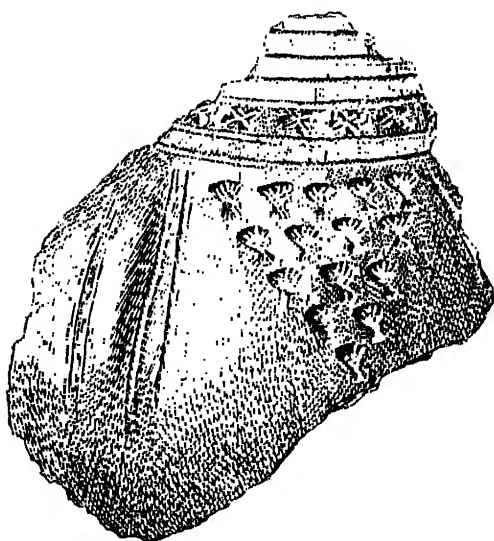


Fig. 1. FRAGMENT OF CINERARY URN, ISLIP, NORTHANTS ($\frac{1}{2}$).

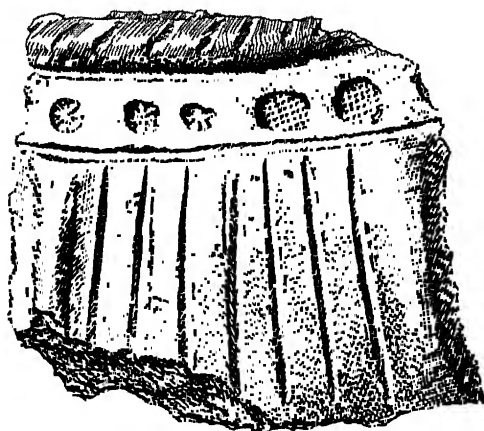
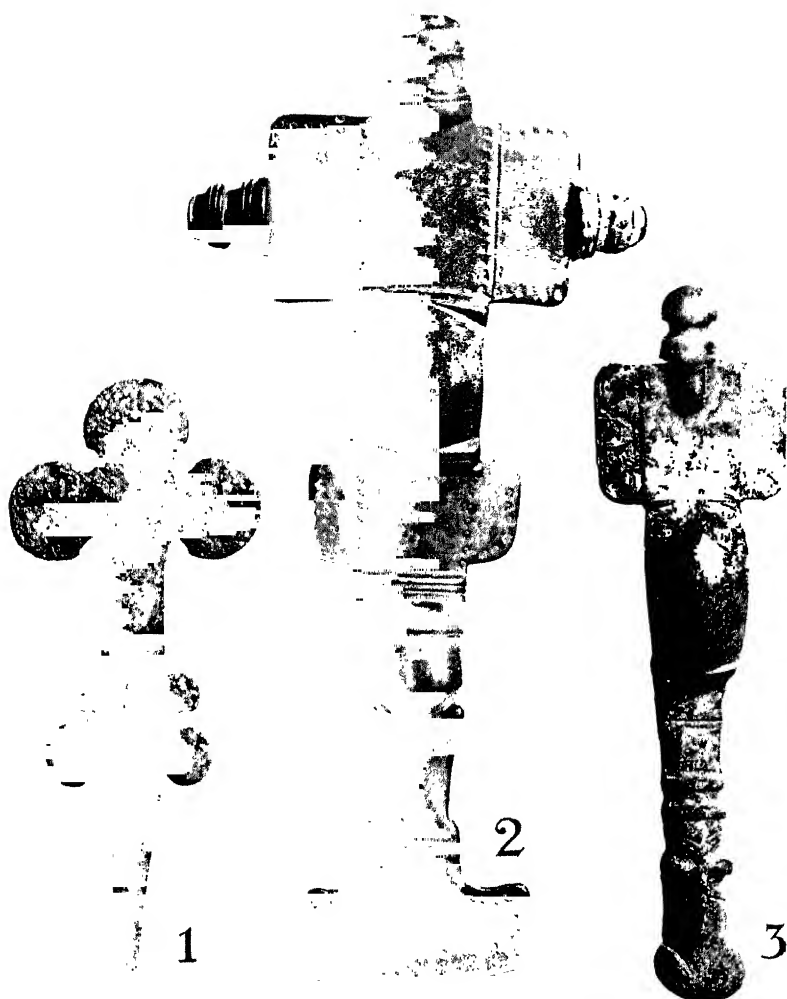


Fig. 2. FRAGMENT OF CINERARY URN, ISLIP, NORTHANTS ($\frac{1}{2}$).

D. 5.3 in.; and H. 3.7 in., D. 5.1 in.). The latter was apparently found with a coin and shield-boss, the only case of association recorded in this cemetery, and useful as showing that these were accessory vessels in unburnt burials.



Pl. 1. ANGLIAN BRONZE BROOCHES, ISLIP NORTHANTS ($\frac{1}{4}$)

A small cup with rather angular profile (H. 2.2 in., D. 3.3 in.) is ornamented on the shoulder with a row of stamp-impressions, a cross within two concentric rings. The above are well preserved, but unfortunately only fragments remain of what were once two handsome urns that from their large size may be regarded as cinerary urns and presumably earlier than the other Anglian relics. Both are of good blackish ware: that with impressed fan and cross patterns (fig. 1) was originally about 8.4 in. in diameter, but the size of the other cannot be determined with any accuracy. It is impressed with wafer and wheel patterns and strongly ribbed at intervals on the shoulder (fig. 2).

The iron is of little interest: a shield-boss with three or four rivets still remaining on the rim (D. 5.8 in., H. 3 in.), two examples of the usual knife (L. 3.4 in. and 4.8 in.), and a ring (D. 1.8 in.) probably from a warrior's equipment. No doubt from the graves of women came a pair of bronze tweezers, three crystal beads (D. 0.8, 0.9, and 1 in.) similar to those figured in *Saxon Obsequies*, pl. XXII (Little Wilbraham, Cambs.) and in *Nenia Britannica*, pl. II, fig. 21 (Chatham Lines, Kent); also fifty-seven glass beads, chiefly blue, the rest being olive green, black, green, brick-colour, yellow, white, and inlaid colours. Besides these were three beads of glass and twenty-nine of amber, perhaps belonging to a single necklace. A corroded bronze buckle with blunt-ended tongue is peculiar on account of its clumsy fastening with a metal ribbon.

The glass recovered was of some interest but unfortunately fragmentary, enough remaining to enable a restoration to be made in the illustrations. One (fig. 3) is very thin and pale green, of tall conical form with horizontal threads and spiral grooving. The form (apart from the decoration) is seen in the Alfriston specimen figured by Prof. Baldwin Brown (*The Arts in Early*

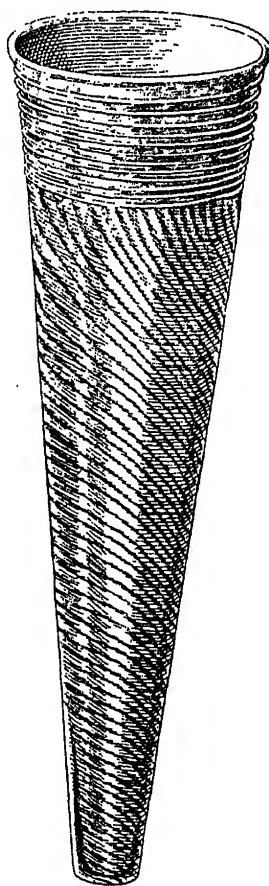


Fig. 3. GLASS CUP, ISLIP, NORTHANTS ($\frac{1}{2}$).

England, vol. iv, pl. CXXVIII, fig. 2, p. 487), who supplies references to other finds in England. A pale green bowl (fig. 4) with threads applied in rings and loops had a diameter at the mouth of 4.8 in. and resembled in form a perfect specimen of sapphire blue in York Museum (Baldwin Brown, iv, pl. CXXV. 3, p. 484; and in colour, *V. C. H. Yorks*, ii, fig. 12 on plate). According to Prof. Brown there is a century difference in date between the two types represented at Islip, the drinking-horn being late sixth and the bowl late fifth century; but further discoveries will no doubt bring some degree of certainty on this point. There was also a single claw or 'tear' of dark amber-coloured glass from an elaborate drinking cup often found in

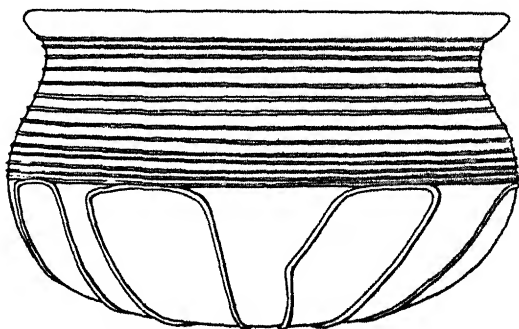


Fig. 4. GLASS BOWL, ISLIP, NORTHANTS ($\frac{1}{2}$).

England and abroad, and once before in the county at Pitsford (*V. C. H. Northants*, i, 244). The type is illustrated by Baldwin Brown (vol. iv, pl. CXXIII, figs. 1, 3, late sixth century and pl. CXXIV, early seventh century) and Baron de Baye (*Industrial Arts of the Anglo-Saxons*, p. 109, pl. XV, with references).

Two pairs of plain clasps to fasten the clothing at the wrist were found, also three members of similar clasps, with scrolls in relief. These are frequently found in Anglian districts.

The brooches are an interesting series though the fragile 'applied' specimens are badly damaged. Of this type there are four specimens (1.7-1.9 in. in diameter): the gilt front of one is restored in fig. 5¹; and there is part of the rim of another with radiating border and a zone of running spirals. A small gilt disc with knot design may have belonged to a diminutive 'applied' brooch.

¹ Very like a pair found complete, of the same diameter, at Newport Pagnell, Bucks., in 1899.

A disc brooch with diameter of 1.2 in. and a ring incised on the face may be of base silver but is of little significance, whereas the remaining brooches throw some light on the date and origin of the interred. It is true that a small number like pl. I, fig. 3 have been found in Kent, but they evidently do not belong to the Jutish group, and point to an independent (perhaps an earlier) invasion from Slesvig-Holstein or Denmark. It is a small variety of the long brooch in its early form when the side knobs were separate from the head and really formed the terminals of the spring-axis at the back, though clasping the sharp edge of the square head. Dr. Schetelig assigns one of the same length from Rudstone, Yorks., to the second half of



Fig. 5. FRONT OF APPLIED BROOCH, ISLIP, NORTHANTS ($\frac{1}{2}$).

the fifth century (*Cruciform Brooches of Norway*, fig. 120), but in that case the knob at the top does not clasp the head-plate by means of a split tang¹ as in the Islip specimen and may therefore be the later of the two. In any case pl. I, fig. 3 as clearly belongs to the fifth century as pl. I, fig. 2 belongs to the sixth. The latter represents a finely preserved 'long' brooch of 5 in. with knobs cast in one piece with the head and the wings below the bow tinned and ornamented with stamped rings. The horse's head at the foot is peculiar in having in place of the nostrils a broad oblong extension, which appears on some examples in addition to the nostrils. It is allied to the handsome Londesborough brooch figured by Baldwin Brown, pl. XLIV, and is evidently derived from a variety like that found near Ipswich in *V. C. H. Suffolk*, i, pl. V, fig. 1. Everything points to a date about the middle of the sixth century, but there is little to date the remaining Islip brooch (pl. I, fig. 1) which has a trefoil head

¹ Cf. Baldwin Brown, *op. cit.*, iii, 263, pl. xli, fig. 2 (Malton Farm, Cambs.), late fifth century.

and resembles a cross fitchy, the foot tapering to a point. It is a very rare form (though the trefoil head is common) and cannot be early, as the knobs of the head are flattened and exaggerated (see Baldwin Brown, vol. iii, pp. 248, 265).

The above are not the only Anglo-Saxon discoveries made at Islip, and possibly the following belong to the same cemetery.

In 1882 the Rev. R. S. Baker, as local secretary for Northants, described in *Proceedings*, ix, 89, some remains found in 1878 by iron-stone diggers on the property of Mrs. Stopford Sackville. The graves were cut east and west about 1 ft. in the limestone rock and 3 ft. from the surface at a spot close to the turnpike road from Thrapston to Kettering, where that road passes the iron smelting-works belonging to Mr. Plevins. The road is called by antiquaries the Via Devana and is supposed to be a vicinal way of the Romans, leading from the eastern counties through Cambridge, Huntingdon, and Kettering to Market Harborough and Leicester. A circular bronze brooch is figured having an openwork swastika like one from Sleaford, Lincs. (*Archæologia*, i, 394, grave 95); and others from Little Wilbraham, Cambs. (Neville, *Saxon Obsequies*, pl. III, grave 116) and Market Overton, Rutland (B. Brown, pl. XLVIII, fig. 6); and there were other brooches 'some longitudinal, some circular', not further described, also beads of glass and amber, clasps and buckles probably from graves of women, while a shield-boss denoted the grave of a warrior. That the first Teutonic settlements at Islip and other places in the Nene basin were more influenced by East Anglia than by Mercia is suggested in *V. C. H. Northants*, i, 228.

The cemetery may have been in use a long time and the dates given independently above are rather contradictory; but if the range has to be reduced it would be the best course to assign the unburnt burials to the first half of the sixth century, and the cremation urns, representing the earliest Anglian invaders, to the late fifth. This accords well enough with other evidence collected in the north of England, but Anglo-Saxon deposits will have to be excavated with more care and better supervision if the sequence and associations of our national antiquities are ever to be determined with the accuracy now demanded in archaeological investigations.

Mr. LEEDS said the exhibits comprised some remarkable specimens, the silver quoit-brooch being particularly rare. The suggested connexion with Italy was interesting in relation to Sir Martin Conway's recent paper. There had been some

discussion as to a centre of distribution for the beads. The inlaid specimens might be matched on the Rhine, but Italy was probably their place of origin. Even a fragment of a horned beaker was welcome from Islip, and the type survived even into Viking times in Scandinavia. What interested him most was the question of cremation in Kent; and he was satisfied that the practice existed on a fairly extensive scale at least in one area, which influenced adjoining districts. The chief example was at Northfleet, in the north-west of the county; and his view was that settlements yielding long brooches were not Jutish, but earlier Anglian or Saxon, which continued after the east of Kent had passed into Jutish hands. Kentish cremations were therefore not necessarily very early. A grave had been found near Maidstone containing a cremated burial with a fairly late Roman vase, and the same cemetery yielded a little brooch of the Norwegian type referred to in the paper. That was a possible clue to their original home, and it should be observed that there was always a slight difference between English brooches and those from Denmark and Slesvig-Holstein.

Mr. DALE referred to the geological problems involved. Implementiferous gravels were found all over the district, and he agreed that their presence could not be explained by river-action which could never have been considerable. The denudation of the Wealden anticline would have brought the debris of the lower tertiaries down the slopes of the North and South Downs; and Sir William Ramsay's view, though requiring a vast period of activity, had been accepted by leading geologists including Lyell. Could all the gravel of the area in question be the insoluble residuum of the capping of the chalk dome? There were similar conditions at Sandown in the Isle of Wight, but the theory threw back palaeolithic man to a very remote date. He detected more than one type and period in the specimens exhibited.

The CHAIRMAN said the meeting had listened to an interesting exposition of an unusual series of antiquities, and would recognize the kindness of Mr. Stopford Sackville and Capt. Moysey in exhibiting them. Geological enthusiasm had led the captain to investigate the pit, and the Anglo-Saxon finds were incidental. He was sure that no one concerned would regret that they had been submitted to the British Museum for examination, and would eventually pass into that collection on the payment of out-of-pocket expenses. In his opinion Anglo-Saxon and Early British antiquities had artistic claims of no mean order, and were more trustworthy as historical material than

any documents, which were bound to reflect the mind and purpose of the writer. He agreed that an Italian origin for the beads and horned beaker was not out of the question, and nothing was in the early days more persistent than an established trade-route. Venice was a famous centre for the production of beads, particular types being sent to particular parts of the world to satisfy local tastes. In the British Museum was a goblet of crystalline glass from Olbia in South Russia with similar 'tears' attached to the body, dating perhaps about 200 B.C., which might well have served as a prototype for the Anglo-Saxon series.

REGINALD A. SMITH, Esq., read the following paper on Irish serpentine latches:

It is by this time a commonplace that the full value of antiquities can only be derived from a study of them in groups, within which a logical order has been or should eventually be discovered. An isolated specimen may be attractive as a curiosity, but its meaning and importance are only revealed by comparing it with others of its class and by fixing its place in a sequence based on scientific principles. Whether a typological or evolutionary succession can also be regarded as chronological must depend on circumstances; but a nexus of some kind is essential, and the interdependence of form and period will in the majority of cases become a matter of demonstration.

As an example of this method I propose to discuss a group of bronzes that to the best of my knowledge are confined to Ireland, and may be seen in a few museums. The total number known to me is a modest one, but sufficient to suggest a working hypothesis as to their origin, development, and chronology; and a previous paper¹ has recorded a parallel series with a somewhat different distribution but apparently the same beginnings. It is possible that hand-pins and latches are developments of the same idea among two different peoples.

Of the two finest latches one has been published more than once, and the other has been illustrated quite inadequately, but the beauty and interest of this exceptional specimen in the British Museum has now been brought out in Mr. Lambert's drawing, and a dozen others have been collected from various sources.

A latchet in this particular application may be described in general terms as a bronze pin bent in the form of S with its pointed end continuing in a curve approaching a C, and with a head consisting of a flat disc, sometimes ornamented. Some

¹ *Proceedings*, xx, 344; cf. *Opuscula archaeologica Oscari Montelio dicata* 1913), p. 281.

still retain, on the loops of the S, spirals of wire, and probably all had these additions originally. In nearly every case the front can be identified, and it may be noticed that the curve of the pin in these cases always starts from the disc in the same direction, the S being never reversed.¹

The names assigned to them in the past are confessedly provisional, but *latchet*, with or without *serpentine*, may stand, and was Col. Wood-Martin's choice. Sir William Wilde in his catalogue of the Royal Irish Academy's collection called them *spectacle-brooches*, but (as shown below) this was based on a false reconstruction, and has no more authority or justification than Vullancey's *crotal* or *cymbal*, as the first find was described in 1783. In Gough's edition of Camden, iii, 477, they are called 'musical instruments of the ancient Irish, the brass wire round the shanks jingling when the plates were struck with the fingers' like the Etruscan *crotalæ*; and Dr. Ball quotes a traveller who had seen similar objects used in Persia as castanets for keeping time.² Our late Fellow Mr. Romilly Allen had no rival theory of his own, 'unless indeed they belonged to feminine headgear or were jingling pendants for horse harness'—an explanation of mysterious antiquities that is very seldom correct.

The dictionary definition of *latchet* is a loop, narrow strip, or thong to fasten a shoe, and the word is really the diminutive of lace, the first *t* being intrusive. Though applied to the dress and not to the shoe, these bronzes no doubt answered a similar purpose; and as the name has been in use for half a century it is unnecessary to suggest another.

The originals of figs. 5-15 may be classed as Irish latchets, but the prototypes must be sought elsewhere; and in order to preserve a logical sequence the earlier stages are given in figs. 1-4, all from England. In discussing these prehistoric specimens a distinction must be drawn between comparatively heavy bronze castings and the lighter examples made of bent wire. It is by no means certain that all the bronzes found at Hagbourne Hill, Berks.,³ are contemporary, but it is at least possible that the ring-headed pin with shoulder dates from the Late Bronze Age in England. There are much larger castings of this form from Ireland, and fig. 1 represents one from the hoard found on the site of Taunton Union workhouse in 1877.⁴ Three feet from the surface were discovered 12 palstaves (9 with loops),

¹ The woodblock in Wilde's *Catalogue*, reproduced in the *R. I. A. Christian Guide*, has been reversed in the process.

² *Proc. Royal Irish Academy*, iii (1845), 135.

³ *Archæologia*, xvi, 348 (British Museum); cf. *Proceedings*, xx, 34.

⁴ *Archæological Journal*, xxvii, 97; now in Taunton Castle museum.

a socketed celt of Irish type, another with square mouth, a spear-head, a lance-head, two sickles, a torc, armlet, sundry rings, and a ring-headed pin, the last measuring 8.1 in. with a ring 3 in. in diameter (fig. 1). With the hoard were parts of four similar pins, so that it cannot be called an accidental form; and its bent stem constitutes a useful starting-point for the series under discussion. Indeed Dr. J. H. Pring, who described the hoard, considered the type in relation to the so-called latchets of Ireland, which differ mainly in having a disc-head. The mention of damaged bronzes suggests a hoard of scrap metal not neces-

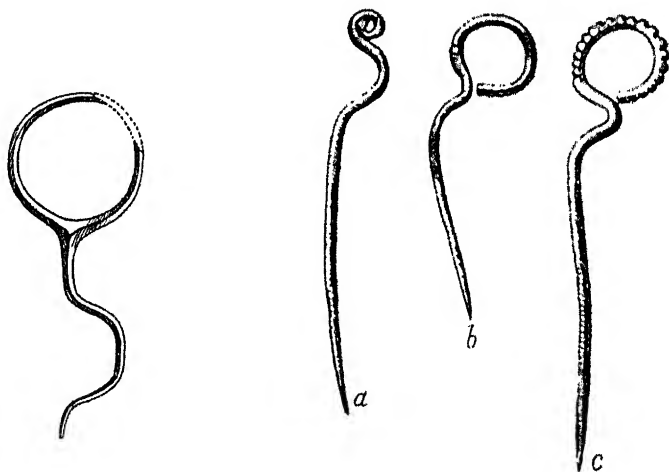


Fig. 1. BRONZE RING-HEADED
PIN, TAUNTON.

Fig. 2. BRONZE PINS, THAMES
AT HAMMERSMITH (#).

sarily contemporary; but there can be little hesitation in assigning the deposit to the last stage of the Bronze Age in Britain. Several ring-headed pins with straight stems have been found in the British Isles, but need not be discussed here, though they seem to be of native origin, and no doubt connected with the form here figured.

Wire specimens are slighter, and fig. 2 represents primitive hand-pins from the Thames at Hammersmith, one (*a*) probably connected with the swan's-neck pin common in some parts of Europe in the Hallstatt period. The expansion of the coil at the head into a ring would produce the forms *b* and *c*, which are nothing but lighter examples of the Bronze Age form (fig. 1). Corroboration of the date of this stage seems to be given by two

specimens (fig. 3) of exaggerated dimensions found by General Pitt-Rivers at Mt. Caburn, Sussex, in 1878.¹ They are of iron, with ring-heads of circular section and the stems flattened out. The larger is 8 in. long and was found 3 ft. from the surface in a pit with a fragment of pottery and a glass bead; the other, measuring $3\frac{3}{4}$ in. in length and $\frac{1}{4}$ in. in diameter, came from the bottom of a pit, with a typical pottery fragment and a bone weaving comb, also of Late Celtic character.

If an objection be raised that the Sussex finds are not latchets

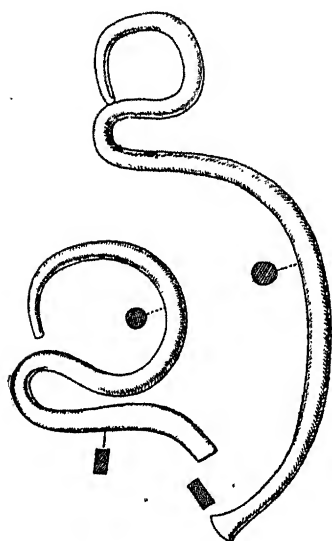


Fig. 3. IRON PINS OR KEYS,
MT. CABURN, SUSSEX ($\frac{1}{3}$).



Fig. 4. BRONZE LATCHET,
GLASTONBURY, SOM. ($\frac{2}{3}$).

but primitive latch-keys of the sickle-type² frequently found on early British sites, better evidence can be quoted from Glastonbury Lake-village in the shape of an S-shaped wire, with a loop in another plane in the middle (fig. 4). The date of this is first century B. C. or earlier, and if the wire was more for ornament than use, like the Irish latchets, the central loop may have been passed through coarse-woven cloth as were the loose spiral coils to be noticed later. The illustration is copied from the *Glastonbury Lake-village*, vol. i, pl. XLII (E 108 on p. 239), and the dimensions of the original are 2 in. by 1 in. It is of circular

¹ *Archæologia*, xvi, pl. xxiv, figs. 16, 17.

² They are included as such in Gen. Pitt-Rivers's volume, *Primitive Locks and Keys* (1883), pl. iv, figs. 40 B, 41 B; see p. 12.

section (diam. one-sixteenth of an inch), with an eyelet at one end and a point at the other, and was found in the peat during 1896. At this point there is a parting of the ways. In Britain the plane of the ring-head is turned at right angles to that of the stem and shoulder, like a modern breastpin, whereas in Ireland the pin remains in one plane, but the ring-head is filled and becomes a disc.

If, as seems likely, the above examples indicate the origin of the Irish serpentine latchet, it is clear that the latter do not date before the Christian era, and some interval must be allowed for the solidification of the head. The illustrations will render minute description unnecessary, but it is desirable to identify all existing specimens, and the essential details of each specimen are given below, some having been published more than once. The following appear to form an early group :

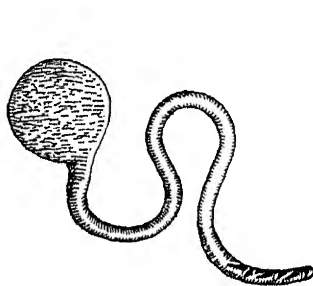


Fig. 5. BRONZE LATCHET,
IRELAND ($\frac{3}{8}$).

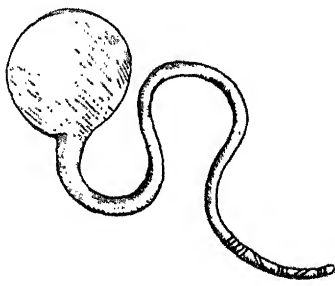


Fig. 6. BRONZE LATCHET,
IRELAND ($\frac{3}{8}$).

Fig. 5. Locality unknown, but probably Ireland. Possibly the specimen figured in *Ulster Journal of Archaeology*, ix (1861-2), pl. ii, fig. 11, p. 274. Brit. Mus. L. 2.8 in.

Fig. 6. Possibly found near Newry, but hardly with figs. 12 and 13 and two in the British Museum. *Ulster Journ. Arch.*, ix (1861-2), pl. ii, fig. 5, p. 274. Belfast Mus. L. 3 in.

Fig. 7. Found in Ireland. Loose wire coil on stem for attachment to cloth. *Ulster Journ. Arch.*, ix (1861-2), pl. ii, fig. 4, p. 274; and ix (1903), p. 164, fig. 1. Dublin Mus. (Wilde's *Cat.*, p. 590, fig. 496, no. 493). L. 3.4 in.

Fig. 8. Found on Col. Pallisser's demesne, co. Kildare. *Ulster Journ. Arch.*, ix (1861-2), pl. ii, fig. 3, p. 274; and ix (1903), p. 164, fig. 2. Dublin Mus. (Wilde's *Cat.*, p. 590, fig. 495, no. 490). L. 4.5 in.

Fig. 9. Probably found in Ireland. *Ulster Journ. Arch.*, ix (1903), p. 164, fig. 3. Dublin Mus. (Wilde's *Cat.*, p. 590, no. 491). L. 4.9 in.

Fig. 10. Found in the Shannon at Athlone, 1849. With two wire coils for attachment, and stem flattened below. *Ulster Journ. Arch.*, ix (1861-2), pl. i, fig. 1, p. 271. Brit. Mus. 1854, from Cooke Collection. L. 6.9 in.

All no doubt originally had wire coils on the stem, and it is remarkable that so many of these coils have survived. In loosely woven cloth like Irish frieze even a bent pin could not long remain in place, and a writer in the *Ulster Journal* for 1861-2,

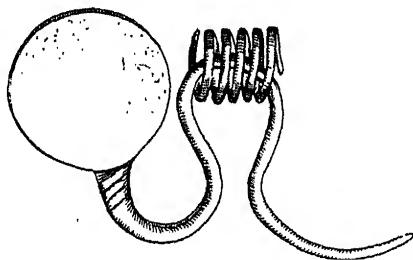


Fig. 7. BRONZE LATCHET WITH COIL, IRELAND ($\frac{2}{3}$).

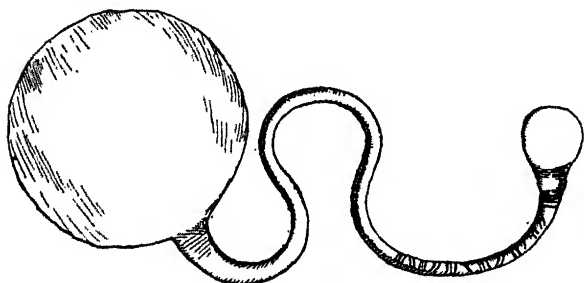


Fig. . BRONZE LATCHET, CO. KILDARE ($\frac{2}{3}$).

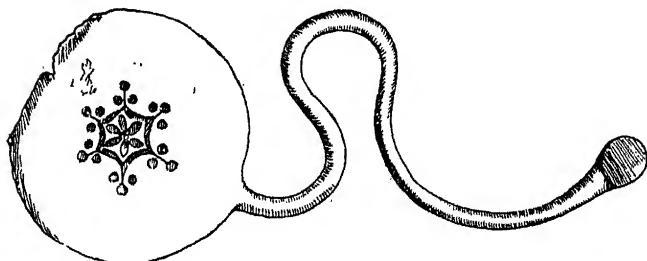


Fig. 9. BRONZE LATCHET, IRELAND ($\frac{2}{3}$).

quoted above, acutely pointed out (p. 273, pl. i, fig. 1) how the pointed end of the coil could be passed through the cloth and turned like a corkscrew till a secure hold was obtained for what had now become a mere ornament.¹ Two such coils would keep

¹ This explanation is confirmed by the presence of a wire coil on a penannular brooch (*R. I. A. Christian Guide*, fig. 27, see p. 23) of about A. D. 550.

the latchet securely attached to the dress, but that accidents happened with a single coil is suggested by the substitution of a disc or flattening for the pointed end, in order to prevent the latchet slipping through the coil.

The later series had another arrangement, but before describing the finest examples it is necessary to add a few words about fig. 10 which represents several specimens, now scattered but illustrated in Camden's *Britannia* (Gough, vol. iii, pl. XXXIV, fig. 1); E. Ledwich's *Antiquities* (1st edition, pl. XVIII, p. 244; 2nd edition, pl. XXIV, fig. 6); Vallancey's *Collectanea de rebus Hibernicis*, iv, 44, pl. VII, fig. 1; *Ulster Journ. Arch.*, ix

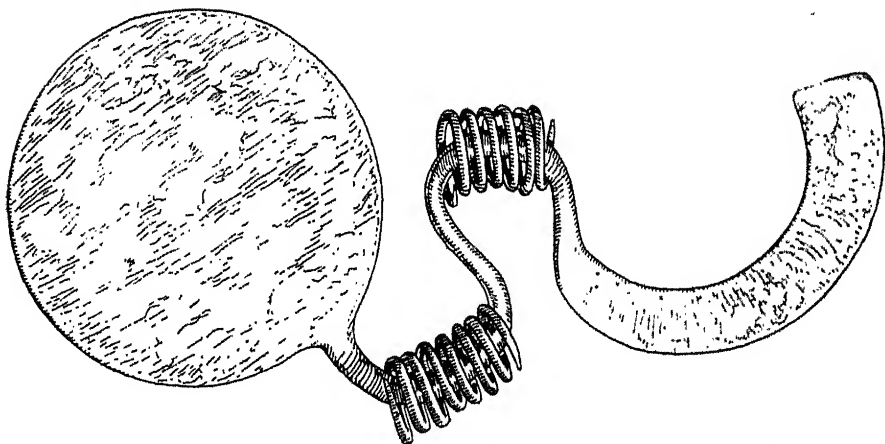


Fig. 10. BRONZE LATCHET WITH COILS, RIVER SHANNON AT ATHLONE ($\frac{1}{2}$).

(1861-2), pl. II, fig. 1, p. 274; and ix (1903), p. 161, figs. 1-3. Six like fig. 10 were found in digging up part of the park of Slane Castle, co. Meath, the seat of the Rt. Hon. William Conyngham in 1779. Some are in the University Museum at Trinity College, Dublin.

Dr. Robert Ball's paper of 1845 in *Proc. R. Irish Acad.*, iii, 135, reviews the available literature and condemns the reconstruction illustrated by Ledwich and Gough. The type should have only one disc, the specimen in question being really made up of two, joined by a copper rivet apparently of recent date. On the other hand, he quotes Mr. Petrie to the effect that of the six specimens found at Slane he had seen three which were certainly double, though he would not undertake to say that they had not been compounded, as that in the University Museum evidently was. According to Colonel Wood-Martin the two discs of several reconstructed specimens do not match.¹

¹ *Ulster Journ. of Arch.*, ix (1903), 160.

In an article signed H. in *Ulster Journal of Archaeology*, ix (1861-2), p. 272, it is, however, definitely stated that the double specimen had not been recently riveted. A number of ring-headed pins with shoulder and several latchets are illustrated on two plates, but no mention is made of their localities, with one fortunate exception in the case of the enamelled specimen (fig. 15) in the British Museum, which is positively (but wrongly) asserted to be covered with vitreous enamel on *both* faces. The design on the disc is ignored in his illustration, but the writer realized the fact that the type is confined to Ireland.

The transition from fig. 10 to fig. 11 would be easily made when it was recognized that a better method of securing the latchet was by expanding the middle instead of the end of the stem, in order to keep the two wire coils apart and in their

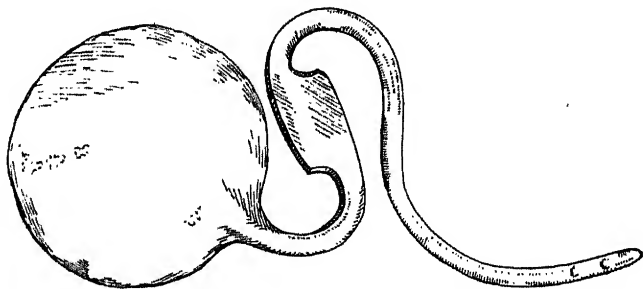


Fig. 11. BRONZE LATCHET, PORTORA, CO. FERMANAGH ($\frac{3}{8}$).

proper places.¹ The following show the application of this principle:

Fig. 11. Found in 1886 at Portora, Lough Erne, parish of Rossorry, near Enniskillen, co. Fermanagh. *Ulster Journ. Arch.*, ii, 52; ix (1903), p. 165, fig. 4. Belfast Mus. from the Robert Day Collection (Sotheby's Sale Cat., 19th May 1913, pl. xiii, lot 389). L. 5 in.

Figs. 12 and 13. Found near Newry. Star pattern once enamelled. Belfast Mus. L. 3 in. and 2.8 in.

Two others, evidently from the same find, are in Brit. Mus. from Robert Day Collection, 1913. L. 3.2 in., figured in *Ulster Journ. Arch.*, ix (1903), 165, fig. 2; and L. 2.8 in., figured in *Proceedings*, xxii, 79, fig. 14; and *Ulster Journ. Arch.*, ix (1903), 165, fig. 1.

Our late Fellow Mr. Romilly Allen published the best specimen known, which is in the museum of the Royal Irish Academy; and his detailed description may be quoted, as Wilde's catalogue treats it in a summary fashion.

'The object is peculiar in shape and consists of a flat disc of

¹ Col. Wood-Martin noticed in some cases that the loops of the pin were worn smooth by friction with these coils.



bronze, with an S-shaped hook attached to one side of it. The disc and the expanded part of the hook in the middle of the S are ornamented with spiral-work similar to that which occurs in the early Irish illuminated MSS. The long flattened tail of the hook has a chequer-work pattern upon it, made up of squares divided into eight triangles, and alternately shaded and left plain.' Wilde states there are four of these in the Academy's museum, one having a spiral coil of wire round it; and he thought they might be dress-fasteners.

In 1908 (*Proceedings*, xxii, 78) attention was drawn to the similarity between the patterns of figs. 12 and 13 and of some

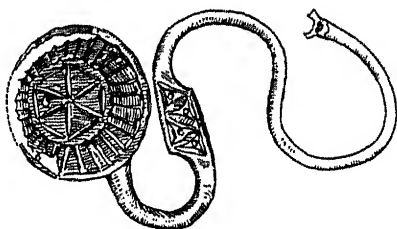


Fig. 12. BRONZE LATCHET, NEWRY ($\frac{5}{8}$)

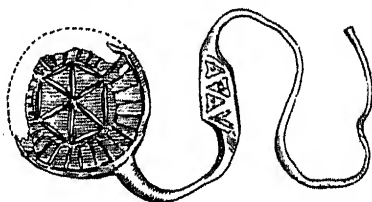


Fig. 13. BRONZE LATCHET, NEWRY ($\frac{5}{8}$).

enamelled bowl-escutcheons found at Dover; and the suggestion was made that some of the latchets dated from the sixth and seventh centuries. If, as seems to be the case, these geometrical patterns are earlier than the intricate and eccentric scrollwork of the specimen next to be described, this dating is confirmed, and the progress made in the evolution of the latchet during five or six centuries can now be estimated. The climax is reached in the eighth century, and the latchet does not seem to occur later.

Fig. 14. Presumably found in Ireland. Enamelled. *Ulster Journ. Arch.*, ix (1861-2), pl. ii, fig. 2, p. 274; ix (1903), 165, fig. 3. *Reliquary and Illustrated Archaeologist*, vii (1901), 56. J. R. Allen, *Celtic Art in Pagan and Christian Times*, opp. p. 48. *R.I.A. Christian Guide*, 23, fig. 14 (reversed). *Arch. Camb.*, iv (1845), 16. Dublin Mus. (R.I.A. Collection, Wilde's Cat., p. 566, fig. 471 reversed, no. 492). L. $5\frac{1}{2}$ in.

There is an obvious connexion between the decoration of this latchet with much in illuminated MSS. of the Irish school, which were at their best in the eighth century. The absence of any animal motive on the latchet suggests an early date in the century, and parallels for all the elements of the design could be quoted from the Lindisfarne Gospels (about 700), and later MSS. and metalwork.

Fig. 15. Found on Castle island at Dowris, Whigsborough, King's Co. Enamelled. Poor illustration in *Ulster Journ. Arch.*, ix (1861-2), pl. i, fig. 2, p. 274. British Museum, 1854 (Cooke Collection). L. 2.9 in.

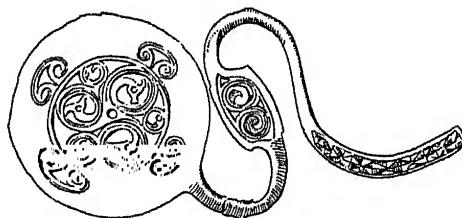


Fig. 14. ENAMELLED BRONZE LATCHET, IRELAND.

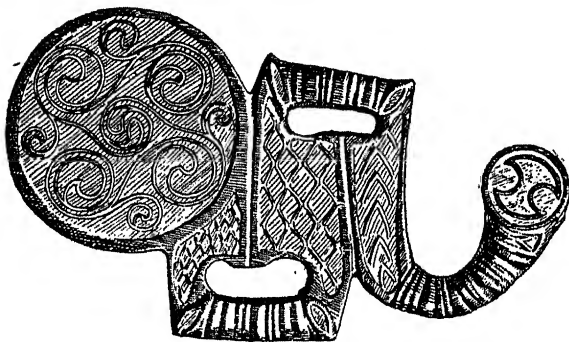


Fig. 15. ENAMELLED BRONZE LATCHET, DOWRIS, KING'S CO. ($\frac{1}{2}$).

In point of decoration this is not far removed from fig. 14, but in form there is an important difference. The two loops of the S curve have coalesced leaving only narrow oblong openings, no doubt for the wire coils. The flattening and compression of the stem have increased the space for decoration, and lattice and herring-bone patterns are introduced, once filled with enamel. There is a disc terminal, but more elaborate than that of figs. 8 and 9; and the transverse ribbing of the stem where not enamelled recalls several penannular brooches of earlier date (e.g. *Archaeologia*, lxxv, pl. XXV, figs. 1, 3, 5). The peculiar

pointed ovals at the angles are seen, for example, on the back of the Tara brooch (*Archaeologia*, lxx, 228, fig. 3); and the date 730-40 assigned to that masterpiece in *Proceedings*, xxviii, 93, would also suit the Dowris latchet, which would thus be a generation later than the Dublin enamelled specimen.

Though all the latchets are doubtless from Ireland, it is regrettable that in several cases no precise locality is recorded,

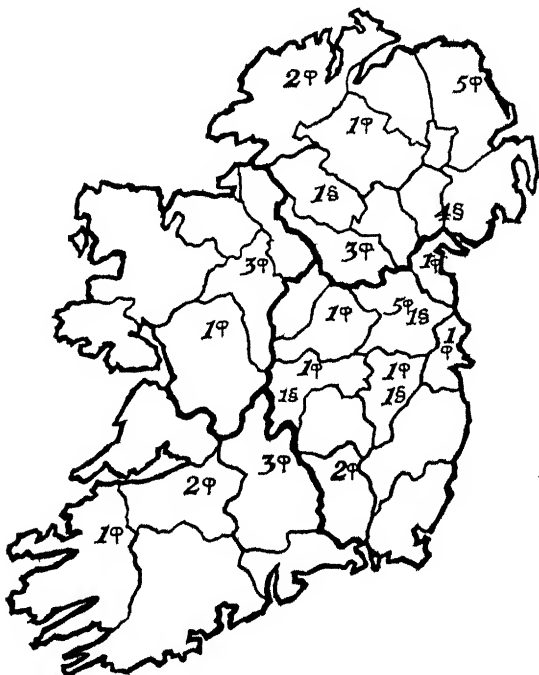


Fig. 16. MAP OF DISTRIBUTION IN IRELAND.

§ denotes serpentine latchets; φ denotes penannular brooches; and the figures the number of each found in various counties.

and it is therefore possible to name only six counties in which they have been found—Kildare, King's, Meath, Westmeath, Fermanagh, and Down. As at least the finest latchets were apparently made and worn by the same people as the penannular brooches, the opportunity is taken of showing the distribution of both groups on a sketch-map (fig. 16), the brooches being taken from a list of the principal specimens in *Archaeologia*, lxx, 247. Imperfect as it is, this map throws some light on the spread of civilization in Ireland in late pagan and early

Christian times and will, it is hoped, call forth amendments and additions having the same end in view.

Acknowledgement must be made in conclusion of the kind help afforded in the collection and illustration of specimens by our Fellow Mr. Armstrong, Keeper in the National Museum at Dublin; and Mr. Arthur Deane, Curator of the Belfast Art Gallery and Museum.

The CHAIRMAN considered the paper a good example of the evolutionary method, and thought it an achievement to trace the development of the latchet through ten centuries in ten minutes. The Society appreciated the effort made to meet the shortage of time.

Thanks were ordered to be returned for these communications.

THURSDAY, 7th MARCH 1918.

Lieut.-Colonel GEORGE BABINGTON CROFT LYONS,
Vice-President, in the Chair.

This being an evening appointed for the election of Fellows, no papers were read.

The ballot opened at 8.45 p.m. and closed at 9.30 p.m., when the following were declared elected Fellows of the Society:

Arthur Foulkes-Roberts, Esq.

Lelio Stampa, Esq., M.A.

William Scoresby Routledge, Esq., M.A.

Thomas Wilson Parry, Esq., M.D.

Frank Stevens, Esq.

Charles James Phillips, Esq.

Rev. George Chatterton Richards, M.A.

George Francis Farnham, Esq.

THURSDAY, 14th MARCH 1918.

Sir ARTHUR JOHN EVANS, Knt., D.Litt., F.R.S.,
President, in the Chair.

Thomas Wilson Parry, Esq., and William Scoresby Routledge, Esq., were admitted Fellows.

The PRESIDENT drew attention to a proposed removal by the War Office of the cottages occupied by the caretaker and police constable at Stonehenge, thus depriving the monument of adequate guardianship.

On this he moved the following resolution :

‘The Society of Antiquaries have heard with concern that the War Office propose to demolish the two cottages near Stonehenge which serve as the domiciles of the caretaker and police constable charged with the safekeeping of the monument.

‘As these are the only available cottages in the neighbourhood the Society feel that such action may be fraught with perilous consequences, and therefore beg leave to call the attention of the Secretary of State for War to the urgent necessity for taking adequate steps to protect this national monument from injury or defacement.’

The resolution was seconded by Sir Hercules Read and carried unanimously.

HORACE SANDARS, Esq., F.S.A., read a paper on Lead Anchors, which will be printed in *Archaeologia*.

Mr. ROUTLEDGE said that a good many points raised in the paper required careful consideration. He spoke from the sailor's point of view, and thought it incredible that the large leaden object on exhibition had ever served as the flukes (flukes) of an anchor, as the weak point was in the middle, where the strain was greatest. With the most perfect modern gear the anchor of the late Lord Crawford's yacht *Valhalla* had lost an arm off Pitcairn Island. In his opinion such a form of fluke could never have taken the ground, but might have been an anchor-stock. It was clear from some of the examples shown on the screen that the earliest anchor consisted of two branches of a tree with the trunk forming the shank. The experiment in Tenby Bay did not prove the case, as any sufficient weight

would hold a boat in smooth water ; but if the lead flukes took the ground in the ordinary way they would bound off as soon as the vessel 'snubbed'.

Mr. H. D. ACLAND's nautical experience prompted him to remark that a ship was held not by the anchor but by the chain which was paid out as required. No anchor by itself could hold a heavy ship. His father once found himself on a stone bench at Carthage on which was a representation of a trireme with the anchor hanging from the bows. The carving was detached and was at the present time in the possession of his family. He referred to the stone anchors of the Phoenicians and mentioned that those in Cornwall and the Scilly Isles had two holes for the rope to prevent chafing.

FLEET SURGEON WEIGHTMAN pointed out that the arms of an anchor were curved to enable it to be got out of the ground, but there were no signs of such an arrangement in the present case. One of the examples shown, and described as an inaccurate representation, was a patent anchor on a different system.

Sir HERCULES READ thought it remarkable that in the contemporary series shown there was not a single example like the lead specimen exhibited. All were of the curved pattern, and he was bound to defer to Mr. Routledge's opinion, which was based on actual experience.

Mr. QUARELL thought that, in spite of its great weight (over 1 cwt.), the lead specimen might have been the stock of an anchor. He expressed the wish that more might be ascertained as to the cargo of the ancient wreck on the North African coast.

The PRESIDENT remarked that nautical experts disagreed on the main point. The Society was in any case indebted to Mr. Sandars for bringing together a large amount of solid material bearing on the history of the anchor. As was the case with most Greek 'inventions', it was now proved that the device existed 1,000 years earlier.

Mr. SANDARS replied that the exhibit had been declared to be the arms of an anchor by sailors who were also archaeologists. On the other theory the anchor would have been unmanageable in the ancient world, as the stock was much too heavy. The Tenby Bay experiment had been conducted in the presence of an expert yachtsman, who declared that the boat

would have dragged anything else. Ancient stone anchors were of the same shape but were he thought less interesting than the leaden specimens.

Thanks were ordered to be returned for this communication.

THURSDAY, 21st MARCH 1918.

Sir ARTHUR JOHN EVANS, Knt., D.Litt., F.R.S.,
President, in the Chair.

The following gifts were announced, and thanks for the same ordered to be returned to the donors :

From the Author :—The execution of criminals in Cheshire. By R. Stewart-Brown, F.S.A. 8vo. Chester, 1917.

From the Author, T. Wilson Parry, Esq., M.D., F.S.A. :—

1. The art of trephining among prehistoric and primitive peoples. 8vo. London, 1916.
2. Prehistoric man and his early efforts to combat disease. 8vo. London, 1914.

From the Author, M. Héron de Villefosse, Hon. F.S.A. :—

1. Deux amulettes trouvées à Carthage. 8vo. Paris, 1917.
2. Une inscription peinte sur un vase romain découvert à Beauvais. 8vo. Paris, 1917.
3. Statue cuirassée trouvée à Cherchel (Algérie). 8vo. Paris, 1917.

From the Author :—The metallurgy of the non-ferrous metals. By William Gowland, F.R.S., F.S.A. 8vo. London, 1918.

The Rev. H. F. WESTLAKE, F.S.A., read a paper on Westminster Abbey, the Old Lady Chapel and its relation to the Romanesque and Gothic churches.

Mr. Westlake's paper will be printed in *Archæologia*.

The ARCHDEACON OF WESTMINSTER desired to draw attention to the part which the chapel played in the ordinary life of the Abbey. The system of management was by watertight compartments, and the chapel was controlled by a Warden, who in the course of its history received certain endowments in the way of houses and rents. The returns made by several Wardens were still in existence and carefully preserved, the muniments running from no. 23179 to no. 23317, and dating between 1298 and the dissolution in 1536-7. The names and dates could be given of no less than seventy-five Wardens of the Lady Chapel.

There was no mention of any repairs to the fabric after the fire at the adjoining palace in 1298, and the presumption was that the chapel escaped injury. The largest item of expenditure was for the lighting the chapel.

SIR WILLIAM HOPE thought the question raised in the paper was extremely important. The Lady Chapel was an early example: most of such chapels belonged to the thirteenth and fourteenth centuries and some had no right to the name. One of the earliest records of an eastern Lady Chapel was in connexion with Durham. Owing to the occurrence of fissures it was taken down, and built as a Galilee at the west end. Next to that in date came the extension at Winchester, to enclose the shrine of St. Swithun, and that was followed by Westminster, to which it was difficult to find a parallel as the church did not then end in an ambulatory. The relative positions of the thirteenth-century chapel and the end of the Confessor's church had been correctly shown on the screen, and the problem was how they were connected. The translation of St. Edward's body in 1163 bore on that point. It was then moved from before the high altar to a new shrine, which from analogy should have been behind the high altar. That did not clear up the difficulty, but an extension of the building in 1163 would fill the gap. There were very few parallel cases, but at St. David's there was a space between the presbytery and the Lady Chapel, and in similar circumstances the aisles might have been extended eastward at Westminster. Did the work of 1163 represent an ambulatory? Such a curved walk might have been carried round as Mr. Micklethwaite had suggested. The Lady Chapel was apparently two-storied, and the chapel above the vault was an interesting feature.

The SECRETARY thought the subject had been well treated. On the theory propounded, the old Lady Chapel would have been extremely long, and did not fit very conveniently into the east end of the Confessor's church, as laid down by Dean Robinson and others. But such extensions were usually conditioned by the dimensions of buildings existing at the time. At the translation of 1163 the Confessor's body could only have been put in the apse behind the high altar. At Westminster there might have been some unrecorded extension between 1163 and 1220. As to Master Henry, it should be remembered that there was a place named Raynes in Essex, and he had come across a master-builder of that name at Waltham Cross in 1292. Mr. Lethaby's book on the King's masons showed that the office continued from father to son, and the occurrence of a mason of the name

of Raynes made the existence of another mason of that name quite possible. Further research among the documents might reveal the position of the chapels of St. Adrian and St. Michael.

The PRESIDENT, in expressing the Society's thanks to the author, remarked on the extremely interesting commentaries made on the paper.

Rev. H. F. WESTLAKE replied that the mysterious Henry of Rheims seemed to answer all the conditions. Mr. Lethaby had traced his history from apprentice to master mason: he came into view in 1243 and disappeared at an appropriate date, but nothing was known of his earlier career. His son Hugh was not a mason and could not have succeeded him, as it was known he was followed by John of Gloucester.

Thanks were ordered to be returned for this communication.

THURSDAY, 11th APRIL 1918.

WILLIAM PAGE, Esq., Vice-President, in the Chair.

The following gifts were announced, and thanks for the same ordered to be returned to the donors:

From H. H. Cotterell, Esq. :—Notes on Irish pewterers. By H. A. Cotterell and M. S. D. Westropp. 4to. Dublin, 1917.

From the Author, H. St. George Gray, Esq. :—

1. Leaden coffin found at Cann, near Shaftesbury. 8vo. Dorchester, 1917.
2. A guide to the Arthur Hull Collection, Chard (exhibited at Taunton Castle). 8vo. Taunton, 1918.

Notice was given of the Anniversary Meeting to be held on Monday, 23rd April (St. George's Day), at 2 p.m.

Frank Stevens, Esq., and Lelio Stampa, Esq., were admitted Fellows.

Sir WILLIAM ST. JOHN HOPE, Litt.D., D.C.L., read a paper on the plan and arrangement of the first cathedral church of Canterbury, as follows:

While putting together lately some notes on the earliest monastic buildings in this country, I found it useful to review what had been printed on the subject by Professor Willis and other writers during the last sixty years. Such a review could not fail to be profitable, firstly in recalling how much we owe to the antiquaries of the past, and secondly in revealing cases where further information that has come to light since they wrote about them makes it advisable to reinvestigate, and perhaps revise, their story of the buildings. Of these cases, a notable example seems to be that of our oldest minster, the archiepiscopal and metropolitan church of Christ at Canterbury.

Although this famous church has been rebuilt more than once, and nothing of the earliest structure can now be seen above ground, there has fortunately come down to us a detailed account of its plan and arrangements; an account that has been dealt with at length by Professor Willis in the admirable treatise published by him in 1845.¹

The historian Baeda, who wrote during the second quarter of the eighth century, notes concerning Canterbury that

When Austin received the episcopal seat in that city he recovered in it, upheld by the royal help, a church which he had learned had been built there by the ancient work of the faithful Romans; and he hallowed it in the name of the Holy Saviour our God and Lord Jesus Christ; and in the same place he established a dwelling for himself and his successors.

This was in the year 602, and it is to be inferred from Baeda's account that the building had been desecrated for some time before its recovery and reconsecration by archbishop Austin.

The church seems to have continued in existence until its destruction by fire in 1067, but the only recorded intermediate alteration to it is that of the raising of its walls and its new roofing by archbishop Odo (940-960).

A description of the lamentable burning of the church has been left by Eadmer the precentor, who was at the time a boy in the monastic school, and early in the twelfth century he also wrote the following account of the building as he remembered it:²

In those days the same venerable Odo had translated the body of blessed Wilfrid bishop of the York folk [which he had] removed from Ripon to Canterbury, and had worthily placed it in a loftier receptacle, as he himself writes; that is, in the high altar, which was built of

¹ R. Willis, *The Architectural History of Canterbury Cathedral*, London, 1845.

² I am indebted to Mr. A. Hamilton Thompson for the revision of this translation.

rough stones and mortar, close to the wall in the eastern part of the presbytery. For this very church (and if this be said superfluously, I pray that it may be received patiently), as Baeda testifies in histories, had been built by the work of the Romans, and to a certain extent decently arranged after the pattern of the church of the blessed prince of the apostles Peter, in which his most sacred relics are honoured with the veneration of the whole world.

Furthermore, another altar, set at a convenient distance in front of the aforesaid altar, was dedicated in honour of our Lord Jesus Christ, whereat the divine mysteries were celebrated daily. And in this altar blessed Ælfege had solemnly deposited, with many relics of other saints, the head of St. Swithun, which he himself had brought with him when translated from the bishopric of Winchester to the archbishopric of Canterbury [in 1005].

To these altars there was an ascent of some steps from the quire of the singers. Beneath was a certain crypt, such as the Romans call a *confessio*, formed after the likeness of the *confessio* of St. Peter [at Rome]; the vault whereof was raised so high that the parts above could not be reached save by many steps. Within, this [crypt] had to the east an altar, which contained in it, as of old time was averred, the head of blessed Fursey. Moreover a passage, that upon its western edge the curvature of the same crypt bounded, extended as far as the resting-place of blessed Dunstan, which was separated from the crypt itself by strong masonry. For that same holy father lay buried in a great depth of earth before the aforesaid steps, with a large and lofty tomb in fashion of a pyramid built over him, having at the saint's head the morrow-mass altar. Thence towards the west the quire of the singers (*psallentium*) extended into the body (*aulam*) of the church, shut off by a seemly enclosure from the resort of the crowd.

Then about the middle of the length of the same body there were two towers standing up above (*ultra*) the aisles of the church. The one of these which was on the south had in its middle an altar dedicated in honour of blessed Gregory the pope, and in its side the chief doorway of the church which (was) of old and is even to this day called *Suthdure* by the English. . . . Opposite to this tower and on the north was the other tower built in honour of St. Martin, having on every side cloisters in which the monks went about. And as the first tower was devoted to legal contentions and judgments of this world, so in the second the younger brethren were instructed in saying the offices of the church by day and night according to the variations of the seasons.

The [west] end of the church was adorned by the chapel of the blessed mother of God Mary, to the which, such was its construction, the approach was by steps only. In the eastern part thereof was an altar hallowed in veneration of the same Lady, and enclosed in it the head of the blessed virgin Austroberta was had in honour. When a priest celebrated the divine mysteries at this altar he had his face turned eastwards towards the people who stood [in the nave] below. While behind him to the west was the episcopal seat built with decent workmanship of large stones and mortar, and this was at a good distance from the Lord's table, inasmuch as it was quite in contact with the wall of the church which embraced the whole chapel.

And this was the plan of the church of Canterbury.

Interpretations of Eadmer's description have already exercised the minds of men, and an ingenious plan based upon the features he mentions was first put forth by Professor Willis so far

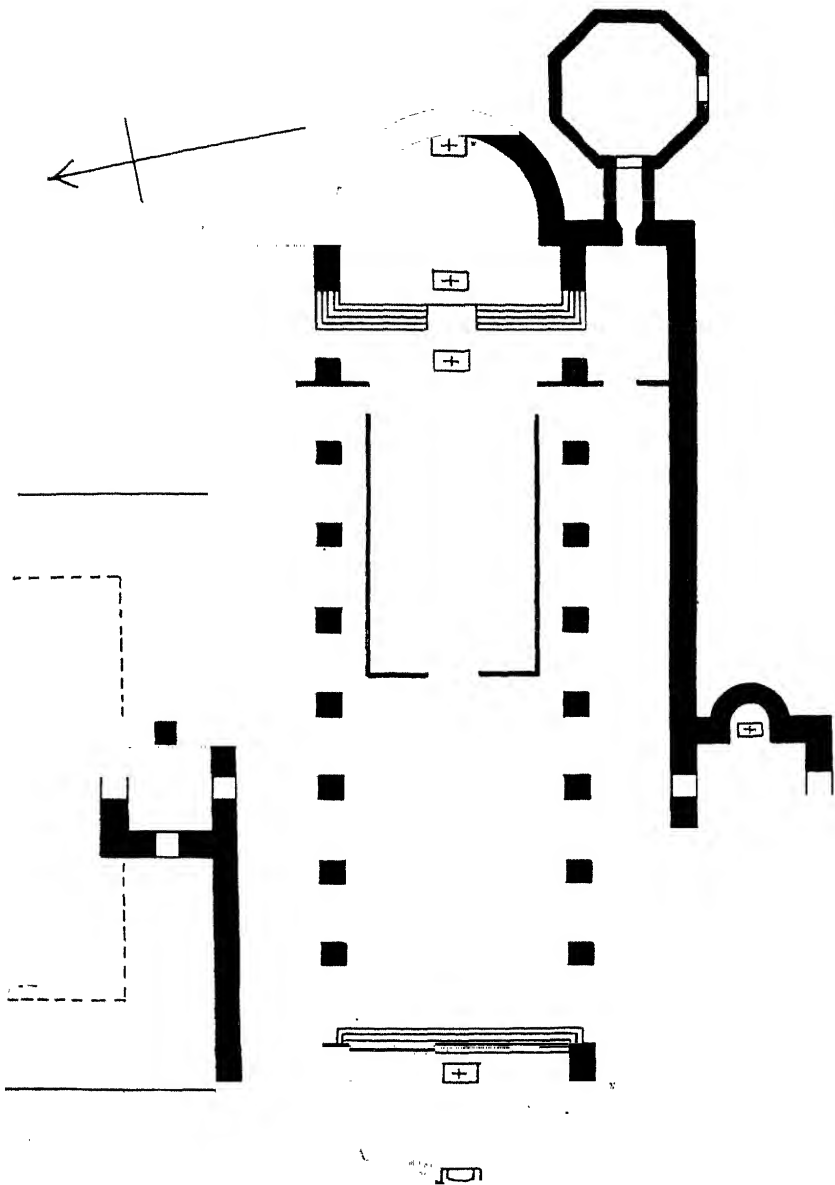


Fig. 1. PROFESSOR WILLIS'S SUGGESTED PLAN OF THE SAXON CATHEDRAL CHURCH OF CANTERBURY.

back as 1845 (fig. 1). This has been accepted generally, though small modifications have been suggested in turn by Mr. G. G. Scott¹ and Professor Baldwin Brown;² it was also accepted by Mr. Micklethwaite in his valuable paper on Saxon church building.³ Since, however, Professor Willis published his conjectural plan, several important discoveries have made necessary a complete revision of former views about our pre-conquest buildings, and the possible plan of the first cathedral church of Canterbury may well be reconsidered.

First as regards the reputed Roman origin of the building.

In 1892 there were uncovered on the site of the Roman town of *Calleva* at Silchester certain foundations which the writer was the first to claim as those of a church, a claim now generally admitted. The building which they represented was quite small, but complete in itself, and consisted of a middle portion or nave with an apse to the *west*, and aisles ending in square porches flanking the apse. The place of the altar that stood in the apse was marked by a square panel of fine mosaic set in the coarser tessellation of the rest of the floor, which was of one level throughout. Across the width of the east front was a narthex or portico, also paved with coarse red tessellation. It should be noted that the worn condition of the floor on the east side of the mosaic panel, in marked contrast to the sharp and unworn tesserae in the apse, proved beyond all question that the priest when celebrating always faced west.⁴

Mr. Scott's suggested plan of the Canterbury church (fig. 2) differs from Professor Willis's in many respects. Willis makes no attempt to show any difference of date or work, but Scott divides his plan into two sections: one representing what he deems to have been the Roman portion of the building; the other the addition made by Austin when he restored the church to use. He also places the towers farther east than Willis, for reasons which he thus sets forth:

The position of the towers described by Eadmer is so peculiar that I am inclined to think that they belong to the early Roman building and stood at its eastern end, flanking possibly a portico or atrium. If this be so, Professor Willis, in his plan, has placed the towers somewhat too far towards the west. Eadmer merely states that the towers stood about the middle of the length of the nave (*sub medio longitudinis aulae ipsius*).

¹ George Gilbert Scott, *An Essay on the History of English Church Architecture* (London, 1881), pl. ix.

² G. Baldwin Brown, *The Arts in Early England* (London, 1903), ii, 260.

³ *The Archaeological Journal*, liii, 293-351.

⁴ See the plan in *Archaeologia*, liii, 564.

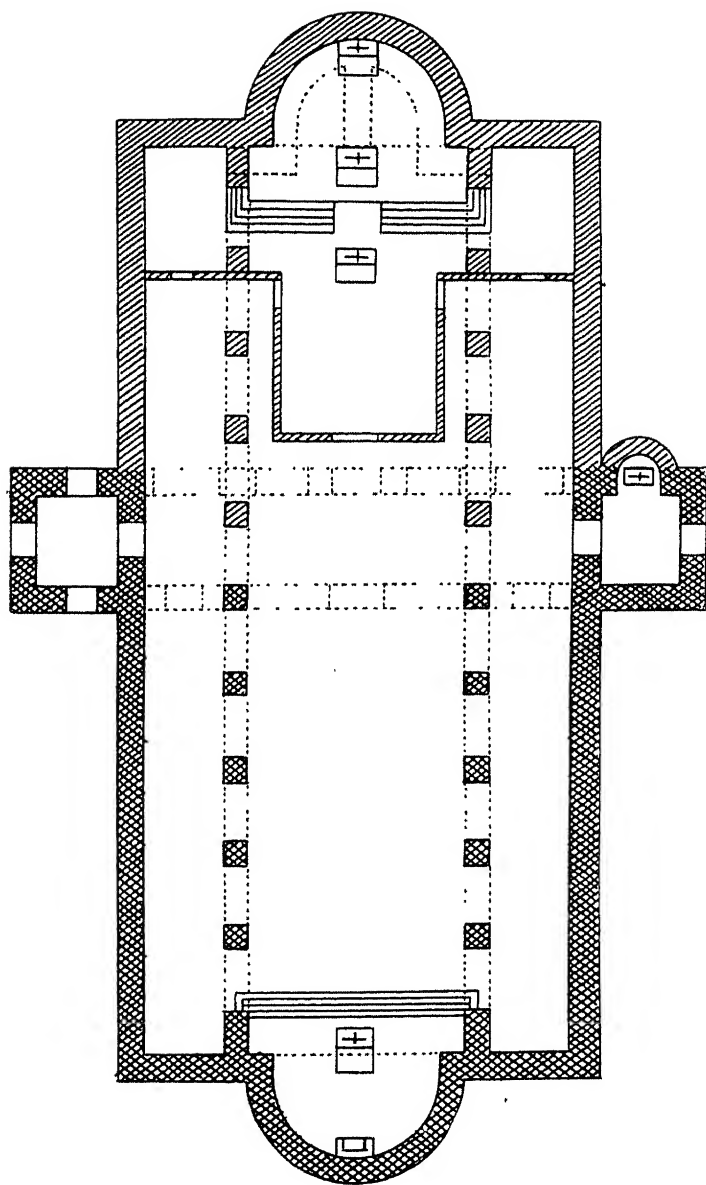


FIG. 2. MR. G. G. SCOTT'S SUGGESTED PLAN OF THE SAXON CATHEDRAL CHURCH OF CANTERBURY.

Mr. Scott likewise in another passage has this remark :

Both the position of these towers, and the combination of a tower and an apse, is most unusual, and while cold reasoning forced me to admit that the professor was right, imagination somewhat rebelled, I must confess, against the admission of an arrangement which, if it ever existed, must have been, as far as was known, unique.¹

It may be noted in passing that Eadmer plainly states that the altar of St. Gregory in the south tower was *in medio sui*, in the middle of it, whereas Prof. Willis shows it in an apse to the east for which he has no authority. The altar might possibly, however, have stood against the east wall.

Mr. Scott thus sums up his views about the Canterbury church:

I suppose therefore that what Augustine found was an aisled basilica, without transepts, with its apse towards the west in the usual manner, and with a portico flanked by towers at the east end. We may imagine him to have wished to enlarge the church while restoring it, and also to provide a more ample choir: the old church, like many of the early basilicas, possessing, possibly, none. This he effected by removing the eastern entrance; and, extending the church in that direction, he added an apse with an altar for the monks, which, as time went on, became at last the high-altar of the church. The archiepiscopal throne continued to stand, or was then re-erected, in its primitive position, in the western apse. The formation of a porch under a southern tower was thus a sort of tradition of the original purpose of this tower as part of the atrium.

Mr. Scott continues :

Whether this be in truth the history of the church described by Eadmer, we cannot tell, but that it is the history of the invention of the double apsidal plan, there is, I think, little doubt.²

As regards the two apses at Canterbury some people will probably agree with Mr. Scott, but it must not be overlooked that the minster of the abbey at Abingdon, founded by Heane in 675, is recorded to have been 120 ft. long and round both at the west end and the east end. The prior mention here of the western apse suggests that it was the more important one.

In connexion with the eastward extension of the Canterbury church there are one or two further points that must be considered.

Mr. Scott has drawn attention in another passage to certain resemblances between the eastern arrangement of the early church still existing at Brixworth and Eadmer's description of the Canterbury building; also to features which both have in common with the interesting sketch-plan of the monastic church of St. Gall in Switzerland.

The Brixworth church is known to have been founded before 690 as a dependency of Medeshamstede (now called Peterborough) (fig. 3). When complete it had a deep eastern apse encircled

¹ *Op. cit.* 102.

² *Op. cit.* 39.

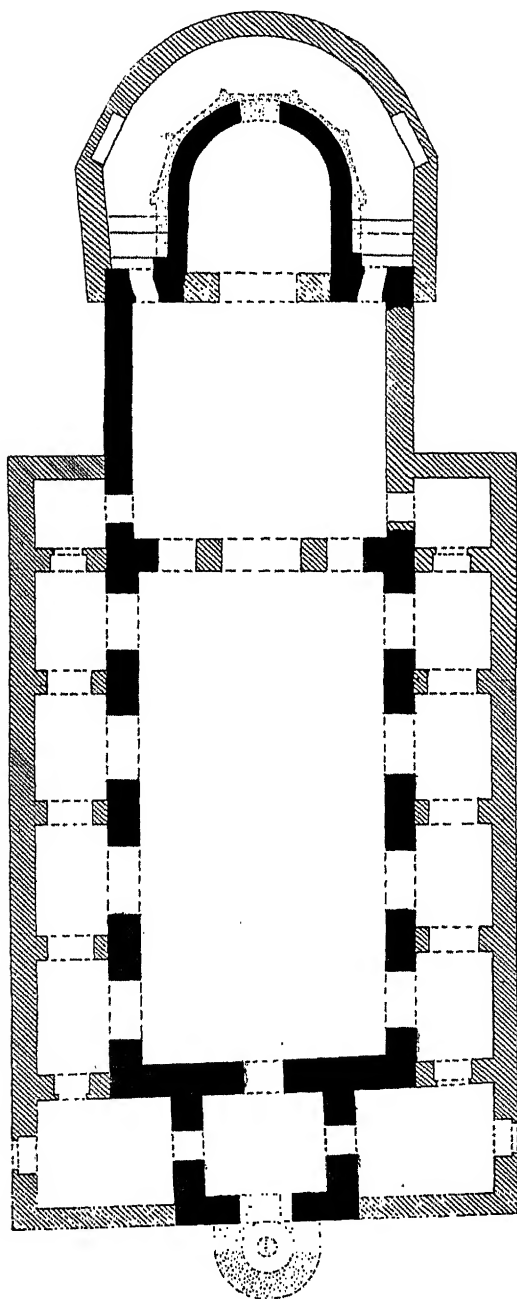


Fig. 3. RESTORED PLAN OF BRINWORTH CHURCH, NORTHANTS.

by an external crypt-like ambulatory, which was vaulted, a square division for the quire in front of the apse, and a nave with clerestory and north and south aisles. In the ambulatory are two recesses that have been claimed as *arcosolia*, but are more likely the places of windows. The aisles were perhaps divided into 'porches', and between nave and quire was a tall triple arch or screen of three arches. At the east end was a square porch with a chamber over, carried up later as a tower with a circular turret of access to its several floors. This porch originally had open arches on the three outer faces, communicating north and south with two-storied chambers or porches flush with the aisles. Mr. Mickelthwaite thought that there was an atrium or forecourt west of the church as well as a baptistery west of the tower, but there is no definite evidence of either feature. North and south of the quire were entrances into porches east of the aisles, and although there is no crypt within the apse it is difficult not to believe that one was intended, if not actually begun, as a breach from the ambulatory in its east front (now blocked) suggests.

Before passing on to the abbey church of St. Gall something must be said about another English building that has affinities with Brixworth. This is the parish church of Wing, near Leighton Buzzard in Bucks. It is not so large as Brixworth, but relatively quite as perfect (fig. 4). It consists of a long polygonal chancel with a crypt under it, and a nave and aisles now of four bays, with a clerestory with later windows. The south aisle was rebuilt, not quite on the old lines, in the fourteenth century, and whatever stood at the west end was replaced in the fifteenth century by a tower with large buttresses, two of which, with windows beyond, form practically a new west wall. This fifteenth-century work perhaps replaced a series of porches and a western entrance like those at Brixworth, especially since the north doorway of the church is also fifteenth century. The crypt beneath the apse was re-opened, after being closed for many years, by Mr. G. G. Scott, who describes it¹ as consisting of 'a central chamber or *confessio*, forming an irregular polygon some twelve feet by eight feet. Enclosing this is a passage way, or *polyandrium*, opening into the *confessio* upon three sides, namely by archways' [north and south] 'and by a window-light aperture' [on the east]. The *polyandrium* is continued westward by passages which extend sufficiently far to return north and south to entrances at the ends of the aisles above. In the west end of the *confessio* is a blocked opening that formerly communicated with the nave of the church. Mr. Scott omits to mention that opposite each archway from the *polyandrium* is a wide

¹ *Op. cit.* 190.

opening through the apse wall, and he does not describe two other points of some importance. The first of these was noted by myself when I visited Wing with my old friend Mickle-

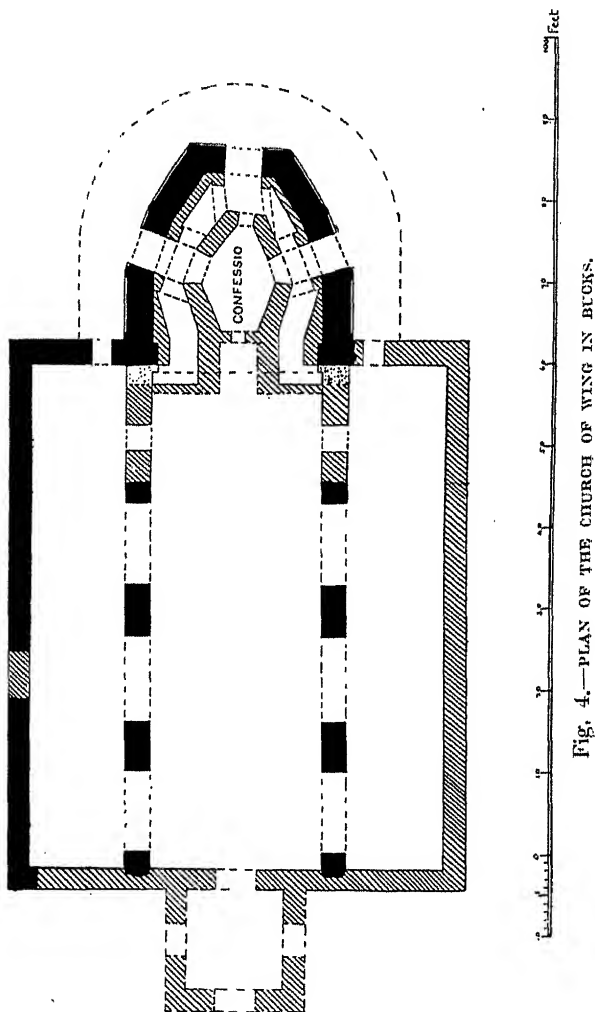


Fig. 4.—PLAN OF THE CHURCH OF WING IN BUCKS.

thwaite, over twenty years ago, namely, that all the vaulting and inner walling of the crypt has been built within an older crypt that still retains its plastered walls, how much older it is difficult to say. The other feature is an original doorway, now blocked and only visible outside, in the east wall of the north

aisle, quite close to the apse. It looks therefore very much as if the original arrangement at Wing was to include an external ambulatory like Brixworth, entered by doors and steps from the ends of the aisles, but with openings north, east, and south into a crypt within the apse. But the proposed ambulatory does not seem to have been proceeded with, and the existing *confessio* and its surrounding passage were both built within the crypt. Mr. Micklethwaite thought that the arches in the apse wall opened into *arcosolium* now gone; but he does not refer to the blocked door in the aisle, though he shows it in his plan. This may, however, have had some other use than opening into a supposed ambulatory. There is one point on which both Scott and Micklethwaite agree, that Wing church is in all probability a building of the seventh century, and this it may well be by reason of its plan.

The sketch-plan for the monastery of St. Gall in Switzerland, sent by an unknown friend to abbot Gozpert, who began the church in 829 and finished it in seven years, has been dealt with in his usual able way by Professor Willis, with a reduced facsimile of the original plan, and another of his interpretation of it.¹ The church was to be 200 ft. long and 80 ft. wide, and to consist of a deep eastern apse or presbytery with a crypt beneath, over which were the high altar and the altar of St. Peter, with steps leading up to them from a transept in front. This has the quire of the singers in the middle, and an enclosed chapel, etc. in each arm. Westward of the quire comes a nave of nine bays and forty feet wide, with north and south aisles each twenty feet wide: the pillars of the arcades were to be twelve feet apart. At the west end the plan shows a second apse, also apparently with a crypt under, encircled outside by a semicircular open yard called Paradise. This is bounded by a portico, likewise semicircular, with doorways into it from the aisles, and flanked by square vestibules on the north, south, and west. The last is the public entrance, and has a round tower north and south of it connected with the portico by short passages. The north side of the church has a number of one-storied buildings ranged along it; the eastern apse is flanked by the scriptorium with library over on the north, and by the sacristy with vestry over on the south; and south of the nave lies the cloister and its enclosing buildings (the dormitory, refectory, and cellar).

The plan of St. Gall shows the crypt at the east end of the church as extending only under the rectangular half of the

¹ *Arch. Journ.* v, 85-117. The plan of the church and its attached buildings forms plate xviii of Mr. Scott's work already cited.

presbytery, and as consisting of a tranverse passage with another leading from it westwards towards the *confessio*. Between the two flights of steps up to the presbytery an *accessus ad confessionem* is noted, which may be assumed to be the usual window. The actual entrances to the crypt are shown as long and narrow passages flanking the presbytery, but opening from the transepts and extending eastwards as far as the transverse passage already referred to: they are therefore external to the main building. Both are lettered: *In criptam introitus et exitus*.

This description of St. Gall suggests a reference to the early notices of a fourth English church, that of St. Peter and St. Paul at Winchester. The architectural history of this forms the subject of another of Professor Willis's masterly treatises, but for reasons already stated there are several points that will bear consideration.

The story of the building begins with the coming of Birinus in 635 and his conversion of King Kynegils and all his people to the Christian Faith. Kynegils soon after began to build a church, but he died in 643 before it was finished. The work was completed by his son and successor, Kynewald, and hallowed by Birinus in 649 or 650. On Kynewald's death in 672 he was buried under the high altar, *sub summo altare*. The church had also another altar, of the blessed Virgin Mary, raised above a crypt in which at least five of the early bishops are noted to have been buried.

Winchester was ravaged by the Danes in 865 and all the monks in the abbey were slain, but there is no mention of any damage to the church.

King Eadred, who reigned from 947 to 955, is recorded to have purposed, had he lived, to have adorned the eastern apse with gilded roof-tiles. This specific mention of one apse may connote another at the western end of the church, especially since place has to be found for the high altar under which Kynewald was buried, and for the altar of our Lady with its underlying crypt that served as the tomb-house of early bishops. We perhaps thus get another possible instance of a double-apsed church to add to Canterbury, Abingdon, and St. Gall.

In 960 Æthelwold became bishop of Winchester, and replaced by monks the secular canons who had come in after the Danes. He is further credited with the rebuilding of the church and the hallowing of it in 980. But it was still unfinished when he died in 984, and his successor Ælfeah or Ælphege (afterwards archbishop of Canterbury 1005-12) completed it; and it was hallowed a second time between 993 and 995.

A long and inflated poem by Wolstan, addressed to Ælfeah, describes the church and monastery, but there are curious

variations in its two texts which led Professor Willis to point out 'that in the first, the expressions used describe the repair of an old church, and in the second, they imply the building of a new one. The first', he adds, 'is, probably, nearest to the truth.'

The poem relates how Æthelwold repaired the forecourt of the church, that about its west front, in which St. Swithun had been buried in 863, and laid the foundation towards the east of a *porticus* of some kind: he also laid other foundations on which he raised a new church. The poem further credits Ælfeah with having added 'hidden crypts' to the church, and with such ingenuity that a stranger entering them would be at a loss which way to turn. Wolstan goes on, moreover, to state that although secret recesses lie on every side, *tecta patent*, their roofs can be seen.

Now the record of Æthelwold's death in 984 also notes that he was buried in the crypt, perhaps that within an apse which he began to the east of the church. But twelve years later he was translated by Ælfeah into the quire. Since there was a second dedication of the church between 993 and 995 this translation seems to have been connected with some works that were in progress in 992, such as the crypts that Ælfeah is said to have added.

What, then, could these crypts have been? Hardly those in a western apse, if there were one, since the eastern had now become the more important front of the church. They may, therefore, have formed part of the eastern extension begun by Æthelwold, but in any case how could their roofs be visible? Only two alternatives seem possible: either that the added crypts took the form of an encircling passage like that at Brixworth, external to Æthelwold's crypt, or, though this seems unlikely, that they were *arcosolia* built out from the crypt, forming 'secret recesses' like those Wolstan writes of.

Farther than this it is impossible to go, for what Mr. Micklethwaite rightly calls 'Wolstan's fustian' is so obscure that it is often difficult to make out its exact meaning. It must, however, be taken for what it is worth.

The last mention of the crypt is in 1047, when bishop Alwyn was buried in it. In 1093 the monks removed from the old minster to a new church begun alongside it in 1079, and the old building was thereupon pulled down.

As confirmatory to some extent of the idea that the first Winchester church had apses at both fronts, it may be pointed out that the new abbey church begun by Æthelwold himself at Thorney in 972 also seems to have had them. Such at any rate may be deduced from King Edgar's charter of 973, which refers to the building of the church by Æthelwold in honour

of the Holy Trinity, and his dedicating of the presbytery and the eastern altar to the blessed Virgin Mary; 'he also consecrated the western part of the church, (that) of the clergy and people, to the blessed Peter, the keybearer of the kingdom of heaven; likewise the northern *porticus* of that basilica to the blessed Benet, the patron of all monks'. As 973 seems rather early for a nave altar, the altar of St. Peter was perhaps in a western apse.

Returning after these digressions once more to Canterbury, it will be found that a comparison of the plans of the Roman church at *Calleva* and of the other churches that have been described furnishes reasonable data for a new conjectural plan of the Canterbury building, which I have ventured to produce (fig. 5). It includes everything that Eadmer describes, and I hope it may claim to be more in line with plans of contemporary churches than the version by Professor Willis that has been so long unchallenged. It also approximates in certain features to the later church of Lanfranc which was evidently built upon the same site.

If Eadmer's account be accepted, the church at Canterbury may have been a composite one: its western half possibly of late Roman date with a western apse; its eastern half more or less Austin's work, with an eastern apse and certain likenesses to St. Peter's in Rome, a church with which Austin was quite familiar from his long residence in that city.

The Roman section probably consisted of the apse with the archbishop's seat and the altar of our Lady, with a nave and aisles of several bays, and originally a narthex or portico across the east front with a tower in either end of it. These towers were apparently standing when Austin restored the building, or they would hardly have been retained in it in such a position. Austin could then have enlarged the church by removing the east wall of the nave, and the portico between the towers, and continuing the nave and aisles eastwards for several bays, terminating, it may be supposed, in an arch and side doors at the end opening into a transept. In the east side of this transept would be an arch into the apse containing the high altar and the altar of the Saviour. These were raised upon a *confessio* or crypt, and the platform not unlikely projected somewhat into the transept: platform and transept being features which, together with the *confessio*, seem called for by Eadmer's statement that the church was 'to a certain extent arranged after the pattern of the church' of St. Peter at Rome. This building, which was, of course, not the present church but its predecessor, Eadmer had himself seen when he visited Rome with archbishop Anselm, whose chaplain and intimate friend he was, in 1098 or 1099. It is also not improbable that at first

Austin's nave opened into the transept by an arcade or screen of three arches, as was the case in most of our early English churches, including four in Kent, with the quire east of it as at Brixworth and St. Gall. But Eadmer plainly states that the quire of the singers extended westwards into the body of the church, and was there shut off from layfolk by a seemly enclosure. This rearrangement was perhaps due to archbishop Odo, who, in the middle of the tenth century, raised the walls throughout and gave the church a new roof and probably a new clerestory. Osbern, the archbishop's biographer, says that these works occupied three years, during which the whole building remained open to the sky. It may be, therefore, that Odo's operations included the building or reconstruction of the transept and the eastern apse, and even a general reconstruction of the church. The triple arch may then have been taken down and the quire set up on a larger scale west of its line. Room would thus be gained for the tomb of Dunstan, who followed Odo and died in 988, and for the morrow-mass altar at its head. Odo himself was buried in 960 under a lofty *pyramis* to the south of the altar of the Saviour.

There is another feature which has not hitherto been discussed in connexion with the Canterbury church, namely, the possibility of an external ambulatory crypt encircling the apse, like that still about the apse at Brixworth.

Eadmer's description of this was translated by Professor Willis:

Moreover, the single passage (of entrance) which ran westward from the curved part of the crypt, reached from thence up to the resting-place of the blessed Dunstan, which was separated from the crypt itself by a strong wall.¹

This the Professor understands² to mean that the crypt had 'a single entrance in the middle of its western face'. But no known English crypt had an entrance in such a position; which, moreover, was not the usual place of a doorway, but of a window looking into the *confessio*. It is also somewhat difficult to understand how the single entrance could begin at its farther end. Professor Willis further notes that 'No mention is made of any outer crypt behind the principal one, and similar to the polyandrium of St. Peter's. But', he adds, 'such a circumscribing crypt has been discovered in the ancient Saxon church of Brixworth, running, however, outside the apse.'³ The Professor's plan does not attempt to show the crypt, nor does it indicate the place of Dunstan's tomb, which he says is 'distinctly defined to be at the western end of' the

¹ *Op. cit.* 11.

² *Ibid.* 26.

³ *Ibid.* 26.

passage between the steps up to the apse, 'and therefore in the central line of the plan, and of course sufficiently in advance of the steps to allow access to them'.¹

Mr. G. G. Scott translates Eadmer's description somewhat differently

Enclosed within the curved portion of the crypt extended westward a single passage-way leading to the resting place of the blessed Dunstan, which was separated from the crypt itself by a strong mass of masonry;

and he continues, practically in similar words to Willis:

For that most holy father lay buried at great depth before the aforesaid steps [i.e. those up to the altar platform], and a large and lofty tomb of pyramidal form was erected above him, having at the head of the saint the matutinal altar.²

Mr. Scott does not attempt to interpret this in words, but on plan (see fig. 5) he shows a circumscribing passage within the apse, entered, not however from the front, but by doorways from the ends of his aisles, which is quite a normal arrangement, and with a second passage westwards from it towards the *confessio*. This, however, is not shown, though he has a break in the apse steps, like Willis, for an approach to it. He also does not give the tomb of Dunstan.

Professor Baldwin Brown agrees with Mr. Scott that the western half of the church was a Roman building, but is of opinion that the eastern apse with the crypt and *confessio* were part of Odo's works. 'The form of the crypt', he adds, 'was evidently that of a curved passage, BB on the plan, following the line of the apse and communicating with a chamber or *confessio*, c, at the eastern limit.'³ On a further page he again states that 'the passage followed the inner sweep of the apse' as described by Eadmer, whose words he quotes from the Latin, and he adds:

At Canterbury to judge from the description the two ends were joined by a straight passage, B', forming the chord of the arc, but the position of the stairs or stair of access is not indicated. Their location at AA is conjectural but in accordance with precedent.⁴

Professor Brown's plan (see fig. 5) shows only the crypt and the three altars above, without any steps, and follows Willis and Scott in not indicating where Dunstan's tomb might have stood.

With these three variants in the field it may be as well to read what are Eadmer's actual words:

Sane via una quam curvatura criptae ipsius ad occidentem vergentem concipiebat usque ad locum quietis beati Dunstani tendebatur.

¹ *Ibid.* 28.

³ *Ibid.* 263.

² *Op. cit.* 37.

⁴ *Ibid.* 267.

Finding some difficulty myself in reading into this Professor Willis's translation, I referred the passage to Mr. A. Hamilton Thompson, who translates it in this wise:

An unbroken passage-way, which upon its western edge the curve of the same crypt bounded, extended as far as the resting-place of blessed Dunstan.

The Provost of King's, Dr. M. R. James, to whom I have also submitted the point, agrees that Willis's translation is wrong, and that Mr. Thompson's is the correct grammatical rendering. My neighbour Mr. H. H. Sills, who is lecturer in Classics at King's, takes the same view as the Provost.

Now any difficulties about a *confessio* window or the place of Dunstan's tomb would be immaterial if, as Eadmer seems to state, the crypt passage was an ambulatory external to the apse, as suggested by Mr. Hamilton Thompson, since any openings into the *confessio*, which I take to have filled all the space within the apse, could then have been from the ambulatory itself through the apse wall, like the openings remaining at Wing. There are, however, two questions to consider, how was the ambulatory entered? and what is meant by its extending to Dunstan's resting-place?

About the entrances there is no difficulty, if we assume, as we reasonably may, that the steps which Eadmer describes as ascending to the altar platform in the apse were flanked north and south by other steps descending towards the ambulatory. Further, the floors of this and of the crypt would certainly be below the level of the church, and the steps could have been laid, or at any rate begun, outside the ambulatory as at Brixworth and the later case of St. Austin's abbey. They could thus start within the transept area and sufficiently away from the doors to be loosely described as extending as far, that is westwards, as the blessed Dunstan's resting-place in front of the altar platform.

A further interesting question concerning the apse and its ambulatory can be considered presently. Meanwhile something must be said about the position of the two towers.

Eadmer describes the towers as *prominentes ultra ecclesie alas*, and Willis has accordingly shown them projecting from the main building after the manner of the transept towers at Exeter: an arrangement followed by Mr. Scott and Professor Brown. Mr. Scott's opinions as to their unusual and, in his view, unique position as adopted by Willis have already been quoted, and Professor Brown seems to share his misgivings, since he suggests that they were begun as seventh-century porch-chapels, and afterwards carried up as towers by archbishop Odo.

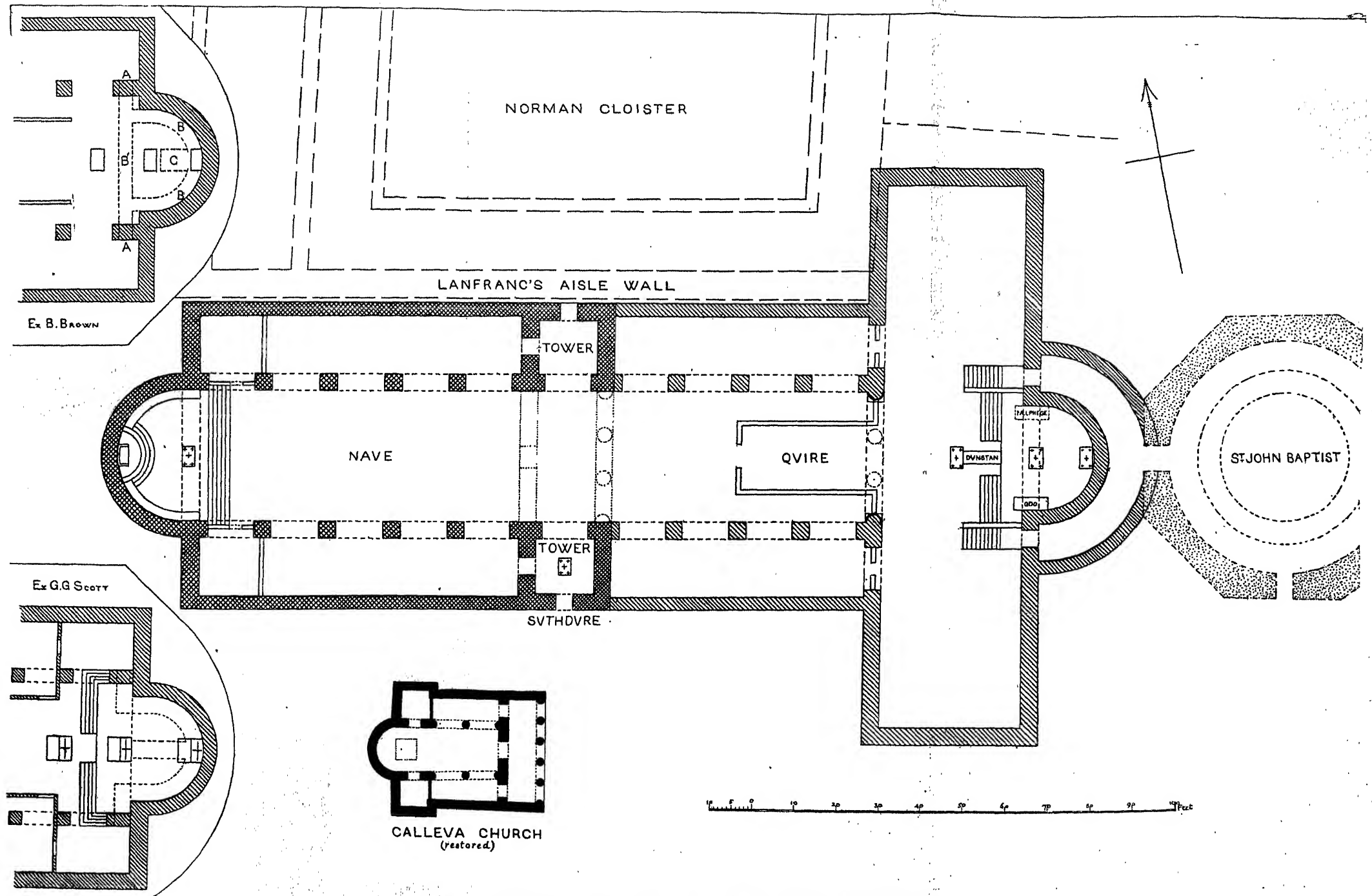


Fig. 5. CONJECTURAL PLAN OF THE SAXON CATHEDRAL CHURCH OF CANTERBURY

Now it seems to me that if the Roman church was of similar plan to the little Callevan building, though of course of much larger size, the most reasonable place for the towers would be at the ends of the aisles within the narthex, where the east wall of each aisle and the attached ends of the narthex itself could be utilized in their construction. Whereas if the towers were built outside, only the narthex ends could be built upon. Moreover, the placing of the towers in the ends of the portico would produce a plan resembling two illustrated by Mr. Scott, namely, the fifth-century church of Eski Djouma at Thessalonica (or Salonika),¹ and the sixth-century building at Qualb Louzé, near Aleppo.² Both the latter and the now destroyed church of Tourmanin,³ also in Syria, had low towers at the ends of the aisles. It is necessary to quote these Eastern churches as examples because they are the nearest analogues in date to the Callevan church, which cannot be later than the fourth century, and it has no parallel in Europe, not even in Rome. The tradition of such towers may perhaps be seen at Brixworth in the two-storied chambers or porches that flanked the middle porch of the west front.

It must further be remembered that Eadmer tells us nothing about the outside of the church, and his description applies only to what could be seen from within. What does he mean then by towers *prominentes ultra ecclesie alas*? I cannot claim to have met with such a use of the word as early as Eadmer's days, but from at least the middle of the thirteenth century onwards the preposition *ultra* is constantly used in the Liberate rolls and other official records to mean not 'beyond', but 'above' or 'over': and it is so used by Jocelin of Brakelond at a still earlier date. I need not stay to quote examples,⁴ but if we may apply the meaning here, then Eadmer's expression could be translated 'standing up above the aisles of the church'. This would exactly describe

¹ *Op. cit.* pl. xvii, fig. 2.

² Pl. xv, fig. 1. De Vogüé, *Syrie centrale*, ii, pls. cxxiii-cxxiv.

³ De Vogüé, ii, pls. cxxxii-cxxxv.

⁴ Thus in 1245-6 the constable of Windsor Castle is ordered
quod fieri faciat unum caminum in camera ultra portam eiusdem
Turris.

In April 1247 the sheriff of Wilts. is ordered that in the castle of Sarum

faciat quandam domum ultra puteum in eodem castro et quandam
rotam ad aquam hauriendam.

Clearly a well-house over the well, with a wheel for drawing water.

A similar order to the constable of Windsor in 1256 directs

domum ultra predictum fontem una cum rota et aliis ingeniis de
novo fieri facias :

that is, he is to make new a house over the well with a wheel and other engines.

towers built within the former narthex, and the break they would produce in the range of clerestory windows, which we may assume existed, would show from within the nave that they were in being.

There is this further consideration. Eadmer says that the south tower was also a porch, with the chief doorway of the church called SVTHDVRE. This it could easily have been, like the present south tower at Wells, whether within or without the aisle. But the north tower had on every side cloisters in which the monks went about, and in it the younger brethren were instructed in the knowledge of the offices of the church. Now if the north tower projected beyond the aisle it would intrude upon the cloister and interrupt the south alley, as Willis's plan shows. This would also have involved a passage through the tower, as his plan likewise indicates. But surely this would seriously have interfered with the school hours of the younger monks. Were, however, the tower inside and flush with the aisle, it could still be described, if it had a doorway into the alley, as having the cloister about it, while its being within the church would make it a more seemly and retired place in which to instruct the youths in the services.

Since the question of the towers cannot usefully be carried farther at present, it will be profitable to consider certain facts about the early church of Canterbury which may be deduced from the record of its demolition by archbishop Lanfranc.

Eadmer states in one of his writings¹ that Lanfranc's first work when he came to Canterbury in 1070 was to pull down and remove all that was left of the burnt monastery, and to build new 'cloisters, cellars, fraters, dorters, and all the rest of the necessary offices' on a larger scale and more splendid style than before. The burnt church, however, was not removed, but to some extent patched up for use.

Then the church was taken in hand, and within seven years completely rebuilt from the foundations. Before, however, the work was begun Lanfranc ordered the bodies of his predecessors, Ælfeah and Dunstan, who had been buried in the eastern part of the old church, to be removed to its western end, where the oratory of the Blessed Virgin Mary was. But in process of time, as the new work of the church went forward, it became necessary to take down the rest of the old building wherein the bodies of the saints just mentioned had been deposited. They were accordingly transferred to the frater, where they remained until the eastern part of the new church was ready for them to be placed there.

¹ *Miracula Sancti Dunstani.*

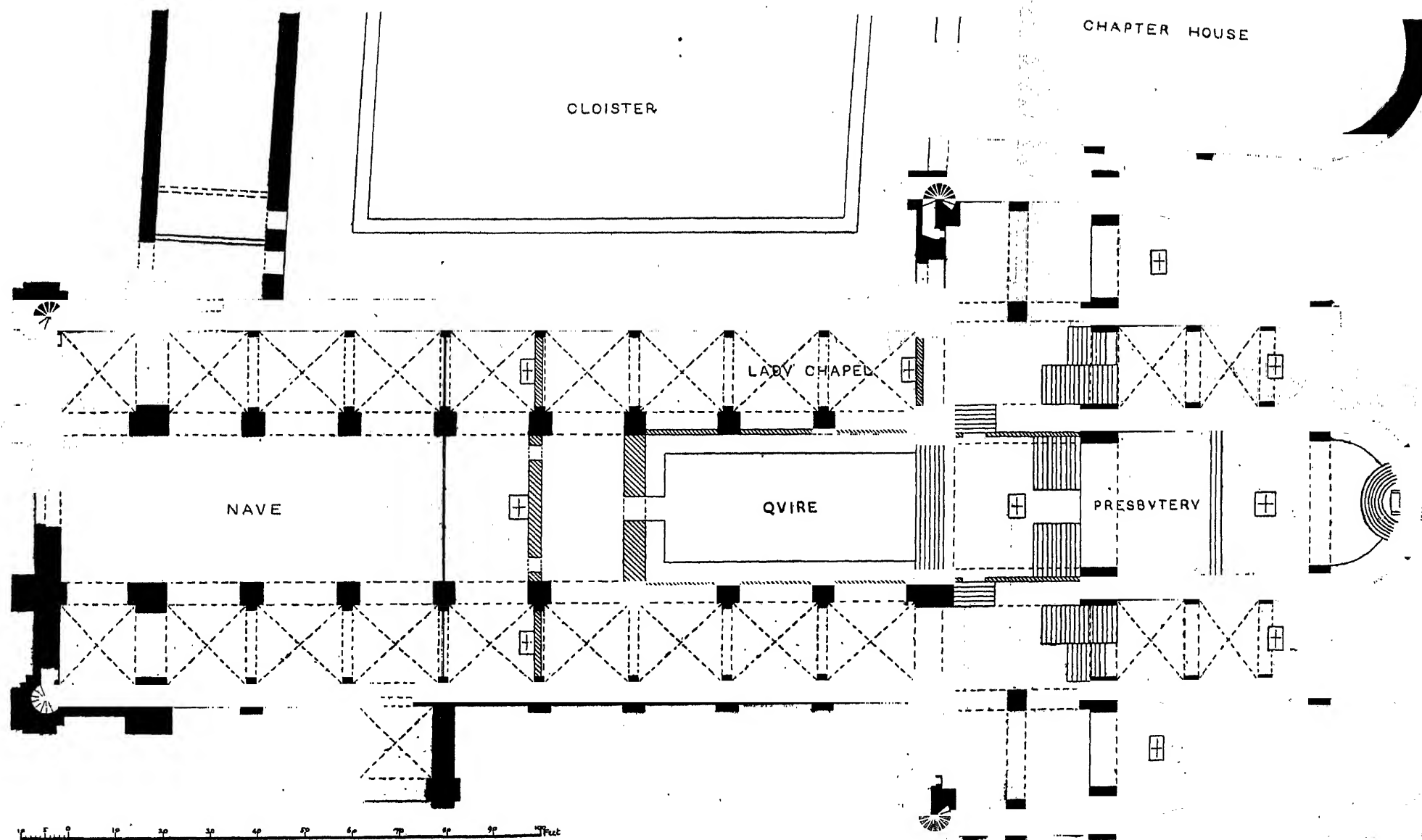


Fig. 6. RESTORED PLAN OF LANFRANCO'S CHURCH AT CANTERBURY

The recital of these facts from Eadmer's account proves, as Professor Willis has pointed out,¹ that the new church was built over the site of the old one, since this was gradually removed to make way for it, and also that the work was carried on from east to west. The old building must likewise have been nearly as large as its successor, inasmuch as the existing cloister and circuit of buildings was set out with reference to it, in exactly the same way as was begun before 1080 by bishop Walcher at Durham,² and later by abbot Ernulf at Peterborough. Like these two churches, it seems, therefore, to have had a transept as long as the one built upon its site by Lanfranc. It is true that Eadmer does not describe a transept, but neither does he the windows and roof that certainly existed. Such a transept too would by no means be an unusual feature. The plan of the St. Gall church shows an undoubted transept between nave and presbytery; while there may still be seen in what are believed to be the remains of the seventh-century church at Peterborough a transept 84½ ft. long and 34 ft. wide. Lanfranc's transept at Canterbury was 127 ft. long and 31½ ft. wide; so that of the church which he pulled down could well have been of similar size without being unduly abnormal.

There is another interesting point in connexion with the first church at Canterbury. Eadmer states that Cuthbert, the eleventh archbishop (741-58),

built a church on the east part of the greater church, almost touching the same, and solemnly hallowed it in honour of the blessed John Baptist. He constructed this church to this end: that (1) baptisms might be held therein, and (2) inquiries of courts of justice appointed for divers causes which are wont to be held in the church of God for the correction of evil doers; also (3) that the bodies of the archbishops might be buried in it, etc.

Nothing further is recorded of the building, save burials of archbishops therein, until the fire of 1067, when Eadmer states that, not only was the whole of the mother church consumed, but

nearly all the monastic offices that pertained to it, as well as the church of the blessed John Baptist, where as aforesaid the remains of the archbishops were buried.

Eadmer goes on to relate that

after this lamentable fire the bodies of the pontiffs above mentioned (i.e. Cuthbert and his successors) rested undisturbed in their graves until that most energetic and honourable man Lanfranc was made archbishop of Canterbury. He indeed, levelling to the ground all that he found of the burnt monastery, whether buildings or weakened remains of buildings, and digging out the foundations which were

¹ *Op. cit.*, p. 15, note h.

² See a paper by the writer in *Proceedings*, xxii, 416-424.

under ground, built up the whole anew. He also ordered the aforesaid prelates to be raised and laid in safety until the church that he had begun should be built in which they could decently be placed.

Professor Willis, in his conjectural plan, shows the church of St. John Baptist as an octagonal building standing to the south of the great apse. But in view of the recent discovery of Wulfric's octagonal structure at St. Austin's abbey it is just as likely that Cuthbert's baptistery stood directly east of the church and that it was connected with it by an ambulatory such as that which may have encircled the apse. And it was because it was so near, 'almost touching it' says Eadmer, that it perished in the same fire in 1067. Its ruined shell must therefore have been pulled down by Lanfranc, after the removal of the buried archbishops, to make way for the apse of his new church, which could then have been begun without further interfering with the old church until he had set up his new monastic buildings.

There is no record of the size or shape of St. John's church, but it may well have been an octagonal structure on much the same scale as Wulfric's, which possibly was suggested by it, though not for use as a baptistery. Some indication of its area may perhaps be deduced from the number of archbishops that were buried in it. They included Cuthbert and nine of his successors, but Odo and Dunstan after him were buried in the great church, perhaps because there was no more room in the baptistery, like the parallel case of the north *porticus* at St. Austin's. Between Dunstan and Lanfranc six other archbishops were buried in their cathedral church at Canterbury, but where is not recorded.

These are the reflections that have been suggested to me by a reconsideration of the story of the first and earliest of our cathedral churches, and I hope that in submitting a new version of its probable arrangement I may be allowed to say in the words of Eadmer:

'And this [perchance] was the plan of the church of Canterbury.'

The CHAIRMAN remarked that the debt of recent investigators to Professor Willis was considerable: his was pioneer work in tracing the development of church architecture. It was unfortunate that the written information as to early Saxon churches came from north-country sources, where the development of Roman buildings could not be so fully traced. He was curious to know where the conventual buildings were placed with respect to the Saxon church at Canterbury. As they were known to have been frequently burnt, the material was probably wood, and therefore perishable.

Mr. CARÖE paid a tribute to Sir William's lucid illustrations of the various architectural points, wherein he had emulated the procedure of Willis who laid all his facts upon paper. The paper required so much thought and careful perusal that he hesitated to give an opinion, or to offer criticisms. The suggested alterations improved Willis's plans, and he fully agreed that *ultra*, in that and other cases, should be rendered 'above', rather than 'beyond'.

Mr. EDWARD BELL said the same rendering of *ultra* had occurred to himself, and suggested that the two towers against the choir were modelled on those of the Roman church.

Sir MARTIN CONWAY questioned whether the Roman church had any towers at all, and asked what evidence there was that they existed prior to the fifth century. It was true that S. Vitale at Ravenna had outside towers, but those were purely staircase towers; and he contended that strictly speaking there were no such towers before that date. In the Syrian church of Tourmanin their purpose was to give access to an upper story by means of a staircase; and he thought that if the Canterbury towers had really existed, they were probably added later than the seventh century. That was Professor Baldwin Brown's suggestion with regard to the upper parts of the towers. He failed to see how the cloister could be said to go all round the north tower if it only adjoined the tower.

The SECRETARY had listened to the paper with pleasure and interest, and had given the author private notice that he must contest some of the conclusions drawn. The origin of the crypt was to be found in the *confessio* (the Greek *martyrium*) as at St. Peter's at Rome, that is, a chapel raised over the burial-place of a martyr. In early times places for divine worship were of two kinds, churches and the graves of martyrs, the latter becoming in course of time the more important. Buildings placed over the remains of Christian martyrs, as over pagan heroes, were of various grades, and in some cases a simple altar took the place of a building. It was not known at what date the *martyrium* was amalgamated with the *ecclesia*, but by the fourth century it was the custom for an altar to contain a relic. The *martyrium* was a crypt, with an altar over it reached by steps; and the passage giving access to the crypt either went round it or directly into it from east or west as the case might be. At Canterbury the western apse was raised on steps, but no crypt existed below it, and in that case there was no question of a

confessio, whereas the eastern apse had a crypt under the altar. He could not agree with Sir William's rendering of Eadmer's description of the eastern apse: the Latin could only mean that a passage ran round inside the curved wall of the apse, and turned westward towards St. Dunstan's tomb. A crypt occupying the whole area within the walls of the apse, as Sir William had shown it, was highly improbable in the seventh century. The suggestion as to the transepts was a good one, and looked probable when laid down on paper.

Sir WILLIAM HOPE replied that nothing was known of the conventual buildings except that they were on the same site as their successors, remains of which still existed. He doubted if they were of wood, as the burning applied to the roofs; and the foundations were dug out by Lanfranc. The ambulatory towers which existed before the great fire of 1178 had been reduced to chapels flanking the high altar; in the rebuilding the tops were taken down but they were not derived from the early towers of Willis's plan. It must be assumed that the Canterbury *turres* stood above the roof, and they were not said to have held bells. Perhaps they were planned as porches and later carried up as towers. From their position he thought they must have been there when Austin started his building. Parallels for the towers could be found in Syria, where they held staircases to give access to galleries. If they were outside the aisles, Canterbury was unique in that respect, those of S. Ambrogio at Milan not being contemporary nor belonging to the original plan. He agreed to a certain extent with Mr. Peers, who had, however, merely repeated Willis's theory. The passage was bounded on the western side by the curvature of the crypt, and the cloister was said to be about, not round, the tower.

Thanks were ordered to be returned for this communication.

THURSDAY, 18th APRIL 1918.

Sir ARTHUR JOHN EVANS, Knt., D.Litt., F.R.S.,
President, in the Chair.

The following gifts were announced, and thanks for the same ordered to be returned to the donors:

From the Author:—*Monumental effigies in Somerset.* Part iii. By A. C. Fryer, Esq., Ph.D., F.S.A. 8vo. n. p. 1917.

From Howard C. Levis, Esq., the author :—

1. A descriptive bibliography of the most important books in the English language relating to the art and history of engraving and the collecting of prints. 4to. London, 1912.
2. Notes on the early British engraved royal portraits, issued from 1521 to the end of the eighteenth century. 4to. London, 1917.
3. Catalogue of engraved portraits, views, etc., connected with the name of Levis. 8vo. London, 1914.
4. Nicolaus Claudius Fabricius, lord of Peirese, called Peireskios. 8vo. London, 1916.
5. Title-pages of four early books in English relating to engraving. 8vo. London, 1916.
6. An aerial race between a Briton and a German, together with brief references to a submarine from a mock-heroic poem printed in 1751. 4to. London, 1918.
7. Extracts from the diaries and correspondence of John Evelyn and Samuel Pepys relating to engraving. With notes by Howard C. Levis. 8vo. London, 1915.
8. Baziliologia, a book of kings. Notes on a rare series of engraved English royal portraits from William the Conqueror to James I. Published under the above title in 1618. 4to. New York, 1913.

From Alfred Pope, Esq., F.S.A., the author :—The walks and avenues of Dorchester. 8vo. Dorchester, 1917.

From the Rev. C. E. Dewick, by the wish of his father the late Rev. E. S. Dewick, F.S.A. :—

Manuscripts—

1. Statutes of the Brigittine Order, drawn up for observance in the monastery of Wadsten, in Linköping diocese, Sweden. Fifteenth century.
2. Order of Profession for Franciscan sisters, belonging to a Franciscan house at Cologne.
3. Bull of Sixtus IV, 1471, to the city of Genoa, giving power to confer doctor's degrees.
4. Compotus of Thomas Bynham, cellarer of Walsingham, 1495.
5. Account of John, bishop of Lincoln, for collection of a subsidy, 31 Henry VIII.

Brasses.

1. Eight daughters of John Marsham, Mayor of Norwich 1518–1525.
2. Four boys. Sixteenth century, of unknown provenance.

A collection of printed books relating to the coronations of French and English kings.

A special vote of thanks was passed for the gifts presented by the Rev. C. E. Dewick.

The Rev. George Chatterton Richards was admitted a Fellow.

Notice was again given of the Anniversary Meeting to be held on Tuesday, 23rd April, St. George's Day, at 2 p.m., for the election of President, Officers, and Council, and a list was read of

those Fellows who on that day would be put to the ballot to fill the offices in question.

The Report of the Auditors of the Society's accounts for 1917 was read (see end of volume), and thanks were voted to the Auditors for their trouble and to the Treasurer for his good and faithful services.

REGINALD A. SMITH, Esq., F.S.A., read the following paper on three rare flint implements from Northfleet (Kent), Le Moustier (Dordogne), and Ipswich (Suffolk):

In the treatment of exceptional specimens there is an obvious danger of making a rule of what is nothing more than an accident; and the risk is increased in prehistoric classification, inasmuch as in the present state of knowledge the determination of an industry is based on the finds as a whole, not on the characteristics of individual specimens. The avoidance of this danger may, however, lead to the neglect of evidence all the more valuable for its rarity, and an exceptional specimen may solve the problem raised by hundreds of typical examples. In any case exceptions generally receive special attention and sometimes deserve it, just as the occurrence of a rare bird, plant, or mineral may be of far-reaching importance.

To show how both these dangers may be avoided I may quote an example that has some bearing on the three flints now exhibited. During the excavations at Grime's Graves, near Weeting, Norfolk, in 1914, a worked flint was found that was described as 'certainly characteristic, though an exact parallel has not come to light on the site'. Three features—its edge-working, faceted butt, and prominent bulb—are frequently noticed in the *Report* published by the Prehistoric Society of East Anglia in 1915 (see p. 199, fig. 76) and 'are found also in the Northfleet industry; hence in the absence of any proof that such a combination occurs at any period remote from that of Le Moustier, this point is of capital importance for fixing the horizon of Grime's Graves'. Since this was written I have found another specimen from Dawley (Thames valley) in Dr. Sturge's collection, and hundreds of others have been excavated in St. Brelade cave, Jersey, which has been proved to date from Le Moustier times by Dr. Marett in *Archæologia*, lxxvii, 101, fig. 26. One among the thousands of flints recovered from the Graves might easily have been overlooked or regarded as an accident, but a few months sufficed to transform this solitary specimen into a type of considerable importance.

Everything hinges on the question whether particular types (or better, groups of types) were confined to particular periods

of the Stone Age. There are some who would perpetuate chaos, asserting that most types can be found at most periods and meanwhile forgetting that in most cases the periods themselves are determined by the succession of types. Recent research has perhaps gone too far in the opposite direction, and exaggerated the tendency of flint forms to appear and pass away in company. Revivals have indeed been noticed, but there is generally something in the environment, if not to account for any recrudescence, at any rate to prove an interval between the two appearances of a type.

The three specimens now to be discussed have never been published, and the first two have waited many years for the third, which seems to continue the same tradition. The locality and environment of each are known with some precision, and the

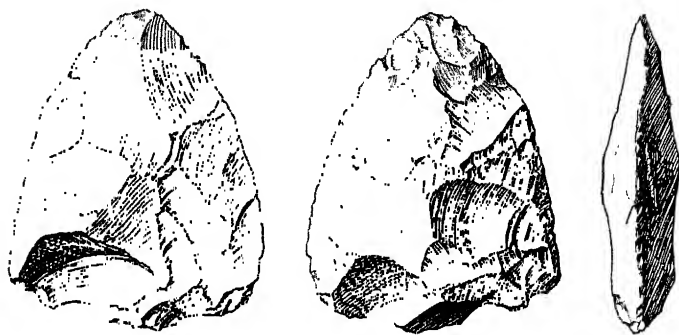


Fig. 1. FRONT, BACK, AND SIDE VIEWS OF FLINT FROM LE MOUSTIER, DORDOGNE ($\frac{1}{2}$).

date of the first two fairly well established. The relation of the third to the others is the critical point, and no decision is possible till parallels are brought to light; but such are likely to remain in obscurity, if the desired type is not publicly discussed and advertised by illustration.

Fig. 1 represents a triangular implement, evidently complete, as part of the original striking-platform remains in the middle of the lower edge, which was therefore never used for cutting. Were it not for the two flaked convex faces, the implement would pass as a point of Le Moustier type, with two edges for scraping; but it is on the contrary clearly related to the palaeolithic hand-axe, and though made from a flake, is worked as a core-implement in the old style. One of the lower angles is intact, thin, and rather rounded; the other may have been affected by the removal of a large chip which went rather too deep, and a later accidental chip (as shown by the patina) would further disguise

what may have been a right angle. The implement is purplish grey, with the edges dulled, and bears the Lartet and Christy label of 1863. The dimensions are 3.2 in. by 2.6 in.

This specimen is almost equilateral, but its chief features—carefully flaked convex faces, curved sides, and blunt butt—occur together on a more elongated implement found on a ‘floor’ at Grime’s Graves during the recent excavations (*Report*, p. 178, fig. 54) and now in the British Museum. That again is an exceptional piece, though our late fellow Canon Greenwell found another on the same site forty years previously.

Fig. 2. This specimen was not available when the Northfleet series was described to this Society in 1911 (*Archæologia*, lxii,

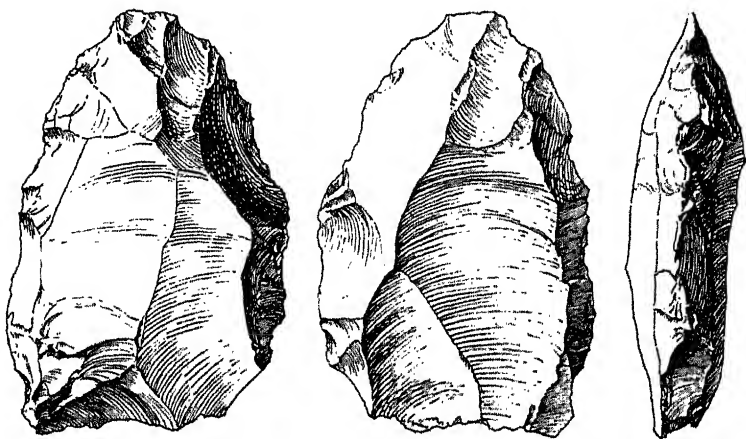


Fig. 2. FRONT, BACK, AND SIDE VIEWS OF FLINT FROM NORTHFLEET, KENT ($\frac{1}{2}$).

515), but that it was found in the same place and circumstances as the rest is morally certain. Compared with the preceding implement it is coarsely flaked, but it must be remembered that to detach such large flakes required considerable skill; and though the faces have an unfinished appearance, the outline is remarkably true to type. The more rounded angle of the base is again sharp, while the other has its normal squareness emphasized by slight notches on either flank, the result being a squared nose with its under-face quite flat. The implement is black, with the beginnings of patina and several cherty inclusions; the edges are sharp, and the dimensions are 4.4 in. by 2.8 in. One face retains traces of a ferruginous deposit in a curved line.

This is the only example of its kind known to the writer from the deposit, described as Coombe-rock and resting on the chalk

of Southfleet pit, south of Northfleet station, Kent; but better implements of the same type are now seen to be fairly plentiful in England. They were brought before the Society as recently as December 1915,¹ so that details are here unnecessary, but certain connexions may be pointed out.

A foreign parallel to fig. 18 in that paper (fig. 36 of the Grime's Graves Report) has been published on two occasions,² and came from a bed of weathered sandstone and reddish yellow loam at Kösten, near Lichtenfels-on-Main, in Upper Franconia. The two faces and section are illustrated of a sub-triangular flint implement 3.9 in. long, broken in early times and with counterchanged patina. What may be called the base has curved and pointed ends, and the curvature of the sides is different, while associated specimens leave little doubt as to its palaeolithic character, and Obermaier does not hesitate to classify the whole series from this stratum as late St. Acheul. Though inclined to make the horizon somewhat later,³ I regard the resemblance of two such specialized forms as anything but accidental, and as one more argument in favour of a palaeolithic date for the Grime's Graves series. Enough has been said elsewhere as to the conformity of the more common types; but when exceptional specimens in two series are practically identical, it is difficult to resist the flint evidence, even though it does not seem to be in accordance with the fauna and other elements of the problem.

An essential resemblance of the present fig. 2 to a specimen from Le Moustier (fig. 10 in the paper just referred to) is not surprising in view of the acknowledged date of the Northfleet series; but a coarse and heavy specimen, $\frac{1}{2}$ in. longer, came from pit 1 at Grime's Graves in 1914 (probably from one of the galleries radiating from the bottom) and might, if isolated, have passed for a neolithic celt. The Northfleet example confirms the suggestion that the other belongs to a much earlier period, and the two might have been still more alike if the Graves specimen had been made of the fine floor-flint, instead of the cherty wall-flint of the pits. Both seem to belong to a time when the point of an implement had ceased to be functional, and the opposite end was coming into use. Fig. 2 shows the change

¹ *Archaeologia*, lvii, 37. To the list may now be added a chert example found on the Quantock Hills above St. Audries, Somerset, and now in Taunton Castle museum.

² Rossbach in *Festschrift zum Anthropologen-Kongress Nürnberg 1913*, pl. 2, fig. 19; and Obermaier in *Mitteilungen der anthropologischen Gesellschaft in Wien*, xlv (1914), p. 47, fig. 7.

³ R. R. Schmidt assigns a specimen to early Le Moustier (*Die diluviale Vorzeit Deutschlands*, 127, fig. 43) and one more closely approaching the celt form to middle Le Moustier (his fig. 44).

in operation, the cutting-edge being still rather zigzag,¹ whereas in the Norfolk parallel the transformation of the butt into a cutting-edge is complete, except that in later times it might have been polished. This leads to a consideration of the third exhibit, but there is at present no conclusive evidence as to the interval of time between figs. 2 and 3: first because the precise duration of the type is unknown, and secondly because the date when chipped flint was first improved by polishing is still undetermined.

Fig. 3 illustrates a remarkable implement found recently in the upper levels (re-deposited boulder-clay with thin soil) of the sand and gravel pit where the Ipswich skeleton was found in 1911.² It certainly has much in common with the type just described,³ but is peculiar in having considerable traces of polishing (indicated in solid black). The implement is thin, one face

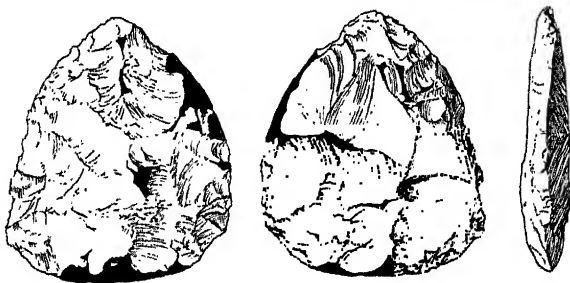


Fig. 3. FRONT, BACK, AND SIDE VIEWS OF FLINT, PARTLY POLISHED, FROM IPSWICH, SUFFOLK ($\frac{1}{2}$).

almost flat but chipped all over before being finished on the grinding stone. The flint is a horny grey, with whitish cherty inclusions, and in the middle of one edge is a small patch of an earlier ochreous surface, slight markings elsewhere being probably due to the same cause. The edge is sharp all the way round and in some places improved by grinding, the base being the straightest and best of the three sides. Though there is little difference in curvature between the two side-edges, it will be observed that one angle of the base is sharper than the other.

Apart from the polishing, collectors might well hesitate to date this specimen, which after being exhibited to this Society

¹ Like a fine Levallois flake in the possession of Sir Ray Lankester.

² Described by Mr. Reid Moir and Prof. Keith in *Journ. R. Anthropol. Inst.*, xlii (1912), p. 345. Mr. Moir has since realized that the skeleton does not date from before the Boulder-clay, but may belong to the upper Le Moustier level found in this and adjoining pits (*Nature*, 12th October, 1916).

³ Compare one from Ickleford, Herts., in *Archaeologia*, lvii, 31, fig. 4.

will be presented by Mr. Reid Moir to the British Museum. It is of course conceivable that this type had a long life, extending from Le Moustier times to the neolithic, but if so it is curious that it has not been constantly found and described during the last half-century. Its comparative rarity suggests on the other hand that it was confined to a definite period, and in that case one is faced with the occurrence of polished flint at a stage of culture not far removed from Le Moustier.¹ There are difficulties therefore in either interpretation of the obvious facts, and even if the above suggestions are not justified by future discoveries, it will be at least admitted that they rest on a number of authentic occurrences of the type in palaeolithic surroundings. It only remains to propose a name for the type best represented in England by the Taplow specimen (*Archaeologia*, lxvii, 38, fig. 15). As it appears to mark the transition from the 'point' of Le Moustier to the axe-like celt intended for hafting, the term proto-celt would by analogy be applicable, but such a hybrid makeshift will no doubt be replaced by a local name in honour of some fortunate discovery in the future. Meanwhile, as celt is only a fictitious Latin word, there need be less objection to giving it a Greek prefix.

Mr. DALE had two implements found in the soil at Southampton, both carefully trimmed on both faces and ground at intervals. One was not triangular, but approached the square; the other had a lunette shape, with the straight side unpolished but the edge all round ground like a saddler's knife. One in the York Museum was almost circular and ground to a cutting-edge all round. The half-moon was a type found in Scandinavia.

Mr. RICE's collection contained two or three comparable specimens, one in particular being a little more ground. He had always regarded them as neolithic.

Sir HERCULES READ thought the meeting did not realize how subversive of all prehistoric theory the recognition of palaeolithic polish would prove to be. One of the most important points in the study had been the clear definition of palaeolithic and neolithic, with a gap between them very widely recognized. One of the main features of palaeolithic work was the entire absence of polish, so that if fig. 3 of the paper were included in the palaeolithic period the definition would have to be revised. He would not be surprised if that should prove to be the case, and had himself long recognized the possibility of palaeolithic polish on

¹ For alleged instances of Solutré date, see Déchelette, *Manuel*, i, 174, note 2, and *Matériaux*, 1867, 28.

flint as there undoubtedly was on horn and bone. The polished palaeolith had always seemed to him a possibility, as there was no good reason against its occurrence, and much in its favour. With regard to the evolutionary series, a certain type of implement had been found on various sites of a given date, and the prototype was clearly of Le Moustier date; hence if the type occurred elsewhere with all its peculiarities, one was entitled to regard it not as *sui generis* or purposeless, but as connected in some way with other examples of the same character. The sequence of the Cave-period had been definitely fixed; but if the types on which it was founded were proved to be unstable, the whole fabric would collapse.

The PRESIDENT thought all would agree with the comparisons presented in the paper, and with the principle that certain types were by classification characteristic of certain periods. He did not see why palaeolithic man in the period of Le Moustier should not have begun to polish implements as he undoubtedly polished bone. Hence there was no *a priori* reason for not accepting polish of that date; but he would profoundly differ from any proposal to establish a *catena*. In later palaeolithic strata, as at La Madeleine, there was nothing of the kind, though the civilization there represented was much higher than archaeologists formerly imagined. Even if polished specimens were eventually found at that horizon, no *catena* could be established, especially in view of the geological evidence, which with the fauna showed that modern man was separated by untold ages from the period of Le Moustier. It was sufficiently obvious that polish could be re-invented in different ages.

W. J. HEMP, Esq., F.S.A., read the following paper on certain objects mostly of prehistoric date discovered near Beddgelert and near Brynkr station:

I must begin by offering an apology for the somewhat disjointed character of my paper, which is largely due to the fact that being practically unable to write I have had to content myself with stringing together a collection of odd notes concerning certain antiquities of South-east Carnarvonshire and North-west Merionethshire.

I wish to draw your attention more particularly to a number of 'finds' dating for the most part from the Bronze Age, but including some of later date. These were scattered over a fairly wide stretch of country (see map, fig. 8), but for the most part fall into two groups, namely, objects from the district adjacent to the double estuary which receives the waters of the rivers Glaslyn and Dwyryd, of which the two parts are known

as the Traeth Mawr and Traeth Bach; and others from a much smaller area near Brynkir station, where the coast route of all ages passes through the outlying western spurs of Snowdonia by a quite low but defensible pass across the peninsula of Carnarvonshire, the site of more than one battle in Welsh history and legend.¹

The whole area in question may be considered as a possible meeting place of several trade routes in prehistoric times:

1. The coast route from the Mediterranean.

2. The coast route from Northern Europe.²

3. Dr. Fleure has collected evidence³ for a Bronze Age route from England and beyond to the coast, through the Bala cleft which stretches from Ruabon to Dolgelley and reaches the coast at Barmouth. Branching from this at Bala is an easy route through the mountains (now followed by the railway, as in Norman and later times by the invading armies of the English) to Trawsfynydd, and thence down to the Traeth Bach. From the Traeth Mawr again is another easy pass through 'the Gwynant valley' and down the Conway to the north coast of Wales.

4. That there was a close connexion between Ireland and this coast in the earliest historic times is undoubted, and the legends, such as those in the *Mabinogion*, probably carry the story a good deal farther back; of this connexion definite evidence is forthcoming in the find of a gold lunula near Llanllyfni to which I shall shortly refer, while local place-names also bear valuable witness to the Irish influence.⁴

¹ e. g. in 1075 and 1255 (see Lloyd's *History of Wales*, pp. 383, 715), and in the story of 'Math the son of Mathonwy' in the *Mabinogion*.

² See in this connexion the British Museum *Guide to the Antiquities of the Bronze Age*, p. 31, where the occurrence of shields of bronze in this district and similar ones in Scandinavia is quoted as evidence of intercourse between Britain and Northern Europe.

³ A valuable and comprehensive survey of many archaeological problems affecting this coast is to be found in Dr. Fleure's paper, 'Ancient Wales—Anthropological Evidences,' in the *Transactions of the Honourable Society of Cymruddorion*, 1915-16. To this paper I wish to make full acknowledgment.

⁴ e. g. Sir John Rhys pointed out that Lleyn, the name of the western part of the Carnarvonshire peninsula, corresponds to the Irish *Lagin*, 'the men of Leinster', and that in *Porth Dinlláen* (a fine natural harbour protected by a fortified promontory) *Dinlláen* suggests *Dún Lagen*, the men of Leinster's Fort. (*Bedd Gelert, its Facts, Fairies, and Folk-lore*, p. xiii, and *Arch. Camb.*, 1892, p. 73.) In this connexion the following quotation from Mr. G. Coffey's *Bronze Age in Ireland* is apposite: 'It is interesting to note that the tradition preserved in the Book of Leinster, a MS. of the twelfth century, refers the first smelting of gold in Ireland to a district in which gold has been found in considerable quantities in modern times. The Leinstermen, it is stated, were called "Lagenians of the gold", because it was in their country that gold was first discovered in Erin.'

It may be worth while mentioning in this connexion the discovery of a flat celt at Penrhyndeudraeth (fig. 2 no. 1), the occurrence of the spiral ornament on a stone now in the churchyard of Llanbedr, near Harlech, which was found among the *cyttiun'r groyddelod* (hut circles, literally Irishmen's butts) in the neighbourhood,¹ and the well-known gold torque also found near Harlech in 1692. An original drawing of this, made *circa* 1756, is in the Society's collections.²

It is further to be noted that two groups of dolmens and other megalithic monuments occur in the area under consideration, one in the neighbourhood of Harlech, and the second on the other side of the 'bight', stretching from the coast in the neighbourhood of Criccieth across the Carnarvonshire peninsula to the coast between Clynnog and Carnarvon.

I think, too, that the general configuration of the coast may have helped to increase the importance of these estuaries in the eyes of the seafaring traders of early days, as with their small vessels they must often have had difficulty in weathering the long peninsula of Carnarvonshire in the prevailing south-westerly winds, but I am no sailor and only offer this as a suggestion.

I hope that some Fellows may perhaps be able to point out other evidence from the forms of some of the finds to which I shall call your attention, to support this very tentative suggestion that we have in the country round the two Traeths a sort of prehistoric Liverpool.

And first I wish to point out one other very important factor—the great frequency of copper over the whole of the district. Other minerals occur, such as gold, iron, manganese, sulphur, lead, zinc, etc., but the copper is by far the most prevalent, and some of the mines have long histories.³

There is abundant evidence of the working of copper in North Wales in Roman times in the form of 'cakes' bearing Roman stamps; the majority of these probably came from the famous mines on Parys mountain, in Anglesey, but two which will shortly be exhibited to this Society may have had their origin in the district under present consideration, as they were found close to the seashore three miles west of Criccieth. The first group of finds I have, for the sake of convenience, rather loosely termed the Beddgelert group.

The earliest 'find' in the Beddgelert district known to me is recorded in Gibson's edition of Camden's *Britannia* (1695).

¹ *Arch. Camb.*, 1868, p. 477.

² In the volume of drawings labelled 'Prææval Antiquities', also illustrated in *Gough's Camden*, vol. iii, pl. viii.

³ In certain parts of Merionethshire copper occurs in the peat and has been extracted from it in considerable quantities (Royal Institution of Cornwall, *Report*, 1856, p. 41).

The brass arms were found in the year 1688 in a rock call'd Katreg Dhiwin, in the parish of Bethkelert. They seem to be short swords or daggers, and to have been all cast in molds. They were of different forms and sizes; some of them being about two foot long, others not exceeding twelve inches: some flat, others quadrangular, &c. About fifty of them were found by removing a great stone; so near the surface of the ground, that they were almost in sight. I have been inform'd, that several were gilt: but twenty or thirty that I saw of them when first found, were all cover'd with a bluish scurf. Their handles probably were of wood, for they were all wasted: and there remain'd only (and that but in very few) two brass nails that fasten'd them, which were something of the form of chair-nails, but headed or riveted on each side; so that they could not be taken out without breaking out the round holes wherein they were placed; which they did not fill up, but hung loose in them.

The authority for this statement was Edward Lhuyd, a Welsh antiquary of note who was keeper of the Ashmolean Museum, and what is clearly a reference by him to this same hoard is to be found in a letter addressed to Richard Mostyn of Penbedw, and dated from Oxford, 8th March 169 $\frac{3}{4}$ ¹—in this he says:

The brasse daggers were found in Meirionydshire but upon ye borders of Caernarvonsh. near Bedh-kelert. I was there in ye countrey and procur'd several pieces of them: but I did not hear there that any of them were guilt.

A further reference, which is of value as giving the name of the farm on which the find was made, is to be found in a letter addressed to Lhuyd by John Lloyd and printed in his *Parochialia*²:

Write to Will: Anwyl to search further in Tyddin Sugyubach near Bethgeledr where several antient arms were lately found.

The position of the farm of Sygun fach answers to the descriptions given above of the location of the find. It is on the left or Merionethshire bank of the river Glaslyn on the outskirts of Beddgelert village, and less than a mile from the fortress of Dinas Emrys, to which reference will be made later.³

Next in point of date is the discovery in 1784 of the well-known bronze shield, now in the British Museum, concerning which I find the following entry at p. 31 of vol. xx of the Minute Books of this Society.

Thursday, Decr. 9th 1784.

Mr. More, Secretary to the Society for the Encouragement of Arts, Manufactures, & Commerce, who was introduced as a Visitor, exhibited, as a Matter of Curiosity, a Brass Target, about Twenty five Inch^s Diameter,

¹ *Arch. Camb.*, 1859, p. 164.

² Vol. iii, p. 107 (Bodleian Library, MS. Ashmole, 1829, fo. 157).

³ I have identified a portion of this hoard among Edward Lhuyd's collection in the Ashmolean, and hope later on to contribute a description. Two specimens are illustrated in the 1695 ed. of Camden's *Britannia*, pl. xx, p. 697, nos. 14, 15; also in Gough's edition, vol. iii, pl. viii, nos. 14, 15.

which was found the beginning of September last, by one William Cadwallader Bryn Egan¹, a poor labouring Man, as he was digging Peat at Moel Siabod, near Capel Cerrig, in the Parish of Llanrwst, Denbighshire. It lay about a foot under the present Surface of the Ground. nothing appears to have been found with it. It is ornamented with a² Number of raised concentric Circles, & small round³ Embossments, like Studs, executed by punching, between them. In the Centre is a plain Umbo, of a conical Form, & across the Cavity of it in the Inside, is fixed the Handle—at equal distances from that & the outward Edge, are rivetted two pieces of Brass like Turnbuckles. The metal is very thin, & what appears to be the more extraordinary is, that it seems to have had no Lining to it; nor any Impression from an offensive Weapon is to be seen on any part of it.⁴

Another bronze shield was found on the southern confines of this district, near Harlech, also in the peat. This is figured in the *Archaeological Journal* for 1850, where, on p. 77, the following description is to be found (see also *Horae Ferules*, p. 167):

A round buckler of thin bronze plate, with a central boss, on the reverse of which is a handle; it is ornamented with seven concentric raised circles. It was found in a peat moss, at a depth of about 12 inches, near a very perfect cromlech, about 400 yards south-east of Harlech, and lay in an erect position, as Mr. Wynne had clearly ascertained by the marks in the peat where it was found. One part, being near the surface, had, in consequence, become decayed, but the remainder is in excellent preservation. It measures, in diameter, 22 inches.

Here there is some confusion, as there is no cromlech 400 yards south-east of Harlech. The Gwern Einion cromlech, by which it is said to have been found, is $1\frac{1}{2}$ miles south-east of the town.

A third example of these bronze shields, now in the British Museum, was found some 24 miles down the coast, in the great peat bog at the mouth of the river Dovey.⁵

Five-and-twenty years later our Minute Book records the exhibition before this Society of another small hoard from this district.

23rd March 1809.

Nich^s Carlisle, Secretary, had the honour to exhibit to The Society four Ancient Weapons, which had been transmitted to him by John Lloyd, Esq^r, of Cefnfaes. These Weapons were discovered in a high Mountain, called Cwm Moch,⁶ in the Parish of Maentwrog, in the

¹ Sic for Egan.

² In margin, 27.

³ In margin, 6500.

⁴ Bryn Egan, the home of the finder, William Cadwallader, is on the lower slopes of Moel Siabod, on the south bank of the river Llugwy, immediately opposite to and less than half a mile distant from the village of Capel Curig. In a volume in the Library of the Society of Antiquaries labelled 'Primaeval Antiquities' is a drawing of this shield, which is reproduced in *Archaeologia*, xxiii, 95.

⁵ B. M. *Bronze Age Guide*, p. 30 and pl. I, 2.

⁶ About $2\frac{1}{2}$ miles west of Trawsfynydd and 6 miles east-north-east of Harlech.

County of Merioneth, under a pretty large stone, which, with several others, appeared to have fallen from a high Rock above : one end of the Stone did not press the Ground, and it was under that end the Weapons were discovered : But there was a small stone put to cover the empty space under the large one, so that the Arms were preserved dry and safe. The Man, who discovered them was gathering some Kind of Moss off the Rocks, and, by accident, threw down the small stone, and thus exposed them.

This hoard, consisting of a spear-head $13\frac{1}{2}$ in. long with loops at the base of the blade, and three rapier blades, is figured in *Archæologia*, xvi, p. 365 ; the accompanying illustration (fig. 1)

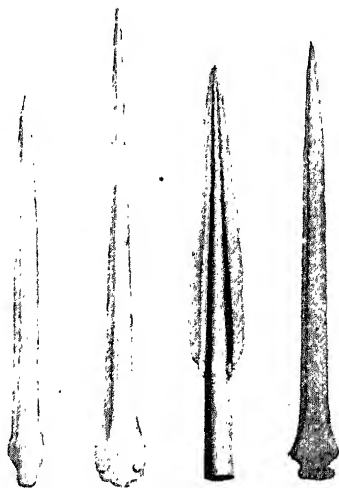


Fig. 1. BRONZE WEAPONS FROM CWM MOCH (ABOUT $\frac{1}{5}$).

is from the original drawing in the Society's collections (in the volume of drawings labelled 'Primaeval Antiquities').

What was probably the same hoard was twice inspected by Richard Fenton, F.S.A.—in 1808 and 1813.¹ He describes it as consisting of three daggers of mixed metal, and a pike or lance head finely wrought found under a cistfaen or in a carnedd from a ridge of mountains between Trawsfynydd and Ardudwy.

A spear-head which was probably part of the same find from Cwm moch made its appearance at the temporary museum established at Dolgelley in August 1850, on the occasion of the meeting of the Cambrian Archaeological Association held at that town,² in company with 'a brass spear head, found at

¹ *Tours in Wales* (1804-13), by Richard Fenton, pp. 118, 254.

² *Arch. Camb.*, 1850, p. 332.

Trawsfynydd', celts found 'near Harlech', 'near Tomen y Mu'r'¹, at Beddau Gwyr Ardudwy², Trawsfynydd, and Penrhyndeudraeth; also the Harlech bronze shield which I have already described, and several other bronze objects the provenance of which is not given, while others came from outside the area under consideration. Several of these are now in the British Museum, and I have to thank the authorities there, particularly Mr. Reginald Smith, for enabling me to have them photographed (fig. 2).

On the same illustration appear a 'sword' and 'dagger' as

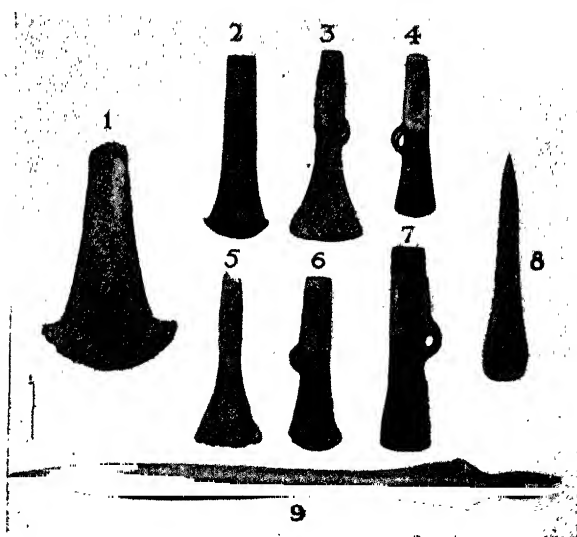


Fig. 2. BRONZE WEAPONS FOUND AT

1. Penrhyndeudraeth. 2. Trawsfynydd. 3, 4. Near Harlech.
5. Beddau Gwyr Ardudwy. 6. Tomen y Mu'r.
7. Llanfair juxta Harlech. 8, 9. Dolwyddelan.

they are described in *Arch. Camb.* for 1852,³ and the *Arch. Journ.*⁴ for same year, where mention is made of their discovery in the peat at Dolwyddelan. These are now in the British Museum. Sir John Evans also records a rapier 11½ in. long from Harlech (*Ancient Bronze Implements*, p. 243).

Mention should also be made of another leaf-shaped sword found on the slopes of Carnedd Llewelyn about 12 miles to the

¹ The Roman station nine miles north-east of Harlech: see also p. 180.

² Near Ffestiniog.

³ p. 155.

⁴ p. 11.

north-east of Beddgelert; this is illustrated and described in *The Heart of Northern Wales* (p. 45). It is about $21\frac{1}{2}$ in. long by $1\frac{1}{4}$ wide; the usual notches at the base of the blade are missing.

A third sword of this type is exhibited (fig. 3). This was found in 1914 or 1915 in the garden of a cottage in Penrhyndenddraeth, by the occupier John Williams, Bwlch y Fedwen; of this I eventually became the possessor.

This sword, which will shortly find a home in the National Museum of Wales at Cardiff, is $23\frac{1}{4}$ in. long and $1\frac{1}{2}$ in. wide.¹ It shows considerable signs of use and has unfortunately been somewhat damaged by the efforts of the lady of the house to clean off—with a brick—the *hen zwaed*, 'old blood', as she termed the red parts of the patina. Fortunately she has not been entirely successful.

At the Dolgelley Museum was also exhibited what was described as 'a brazen measure or drinking-vessel, of curious workmanship, found in a turbarry at Trawsfynydd'. This tankard, of Late Celtic workmanship, subsequently formed part of the Mayer Collection and is now in the Liverpool Museum.

It is made partly of wood and partly of bronze. The wooden portion consists of a nearly cylindrical cup, the curved exterior surface of which is concave in the middle, and is after the fashion of a small tub, having a circular flat bottom, and ten staves forming the sides. The bottom is ornamented with two pairs of concentric circles incised. The staves are

¹ Weight 1 lb. 4 oz. + 60 grains.

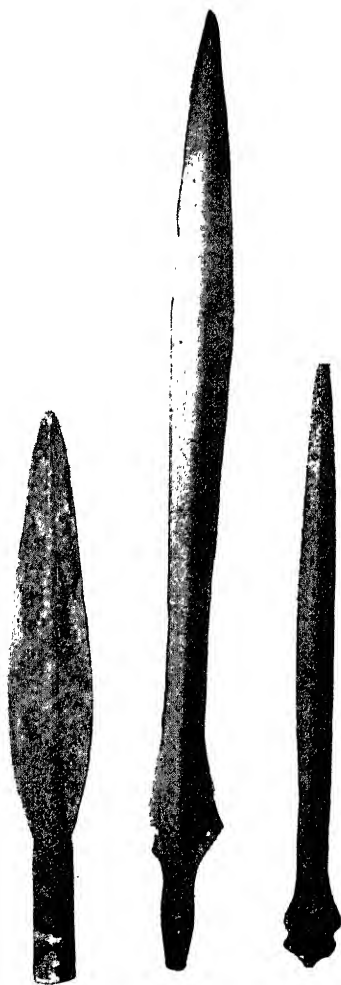


Fig. 3. SPEAR-HEAD, SWORD, AND RAPIER (ABOUT $\frac{1}{4}$).

left thicker at their lower ends, so as to leave a ledge all round the inside for the bottom to rest on, and raising it very nearly half an inch above the lower ends of the staves.

The bottom would be prevented from falling out, when the cup was turned upside down, by the curving inwards of the sides, which reduces the diameter in the middle of the height. In the modern tub the bottom is kept in its place by being let into a groove in the lower ends of the staves.

The metal portions of the cup consist of (1) a bronze knob and washer with a serrated edge, in the centre of the bottom of the tankard, outside; (2) a pair of thin strips of bronze about one-sixteenth of an inch thick, forming two concentric circles of wavy lines inlaid in the bottoms of the staves, and bridging over the small intervals between them; thus binding the whole together, and at the same time allowing for any contraction or expansion according to whether the wood happened to be dry or wet; (3) a plate of thin bronze, which covers the whole exterior, and being turned over at the rim extends down into the interior to a depth of $1\frac{1}{2}$ in.; there is an overlapping of the plates between the handle and the staves; (4) a rectangular bronze handle at one side only, fixed to the body of the cup by four rivets with round knobs on the outside, ingeniously made to form part of the decoration, and going right through the bronze plating and the staves, thus holding the whole together.

The dimensions are: height outside, $5\frac{5}{8}$ in.; depth inside, 5 in.; diameter, $7\frac{1}{2}$ in. to $7\frac{3}{4}$ in.¹

The North Wales Chronicle, 28th January 1910, records the discovery by Mr. Richard S. Pritchard, Park, Llanfrothen, of a bronze spear amongst the stones at the foot of Cynicht Mountain.

This spear-head (fig. 3) is exhibited by the kindness of the owner, Major Evan Bowen Jones of Ynysfor, whose hounds were responsible for its discovery. This event occurred in the course of digging out a terrier from the screes near Creiau. The finder announced his discovery as being an old salmon spear.

The spot where it was found is close to a rock known as Careg Hyllidrem—a very familiar object to travellers, as it overhangs the road between Beddgelert and Harlech in a most striking manner. The spear is $11\frac{1}{2}$ in. long by 2 in. wide.²

Ynysfor, the home of Major Jones whom I have just mentioned, lies not far away, in the Traeth Mawr. It was until comparatively recent times³ an island, which must always have been more or less accessible at low tide, but it was easy of defence and self-contained, being well supplied with fresh water, and there must have been abundance of fish food in the sands surrounding it.

¹ *Arch. Camb.*, 1896, p. 214.

² Weight $12\frac{1}{2}$ oz. + 20 grains.

³ About a century ago the Traeth Mawr was reclaimed by the construction of an embankment across its mouth from the spot where is now the town of Portmadoc; the map (fig. 8) shows approximately the original shore line.

There is clear evidence that these advantages were appreciated in the presence of a small 'hill fort' on the highest point of the island with a dry stone rampart (much diminished in order to build farm buildings many years ago), but still clearly traceable. Outside this wall is a large accumulation of shells—mussels, cockles, limpets, razors, etc., while two other spots on the island also hold smaller 'middens' composed of the same materials. One find from the island is exhibited, a spindle-whorl $1\frac{1}{4}$ in. diameter ornamented with groups of concentric circles, eight on one side, seven on the other (fig. 4). The material is a soft slaty kind of stone of a yellowish brown colour, and feels almost soapy to the touch; the hole piercing it is slightly contracted in the centre.

There is also another bronze object, a rapier, about which Mr. Reginald Smith will, I hope, have something to say (fig. 3).



Fig. 4. SPINDLE-WHORL FROM YNYSFOR (1).

The owner is Capt. G. H. Higson, of Beddgelert, and the weapon was found in the Nanmor valley, which drains into the Traeth Mawr a short distance to the east of the Glaslyn.¹

Some other finds from the Beddgelert district are of importance, viz. two complete Late Celtic terrets of bronze and iron, with a third in fragments, and a number of studs of bronze which were discovered by Major C. E. Breese of Portmadoc in 1910, in the course of excavations on Dinas Emrys, with the permission and financial assistance of the owner, Mr., now Sir T. E. Roberts, of Llyndu, Beddgelert, and Plas y bryn, Carnarvon, to whose kindness we owe the presence of the objects here to-night.

Dinas Emrys (Ambrosius's fort) is a rocky hill a mile above Beddgelert, by the side of the river which is now called the Glaslyn, but was known as the Ferlas in the twelfth century,²

¹ Captain Higson has since presented this rapier to the British Museum.

² Charter of Llewelyn the Great to the abbey of Aberconway, 1198: Dugdale, *Monasticon*, v. 673.

and close to the foot of Llyn Dinas, the lake to which it gives its name. The hill projects into the valley from the main mass of mountain to which it is connected by a ridge of rock, and commands the pass east and west through Snowdonia, which has been used in all ages. Close to it are copper mines which have been worked in recent years.

The site is, in my opinion, of extreme interest, and it is much to be hoped that a full account of the excavations will appear and that further and very careful exploration will be carried out in the future.

I myself know of no site in Wales comparable with it. The summit of the rock was encircled by a dry stone wall, now largely destroyed, and almost every way of access is carefully barred by small 'breast works' of stone.

The place is traditionally connected with third, fourth, and fifth-century Romano-British heroes, and the Irish tradition which pervades the whole of this district is strong here.

Giraldus Cambrensis twice refers to the site, in the first case mentioning it in order to indicate the position of Beddgelert Priory, and incidentally bearing witness to the continuity of the traditions connecting it with Merlin and Vortigern.

*Erat in Venedotia, quae vulgo North-Wallia dicitur, domus clericorum religiosa sub pede montis Erreri qui barbaro Snaudune, hoc est mons nivium, vocatur, non procul a loco qui curia Merlini Ambrosii dicitur, quasi prope littus maris Iibernici sita.*¹

And again :

*Non procul ab ortu Cunewe in capite montis Erreri, quod ex hac parte in boream extenditur stat Dynas Emereis, id est promontorium Ambrosii, ubi Merlinus prophetizavit, sedente super ripam Vortigerno.*²

Three or four miles from the Dinas and close under the summit of Snowdon, at a height of over 1,400 ft., is a lake, Llyn Llydaw, rather over a mile in length, through which passes much of the water supplying the Glaslyn river.

Imbedded in the mud of this lake was found in 1856³ a canoe in excellent preservation 'hollowed out of one solid piece of oak. It was about 10 ft. long, by 2½ ft. or 3 ft. wide ; the bow and the stern were higher than the middle ; bows rounded and the stern square, with a flat bottom. There are also two holes in the stern, evidently for a warp.'⁴

This canoe was exhibited at a meeting of this Society in 1859.⁵

¹ *Giraldus Cambrensis*, Rolls ed., vol. iv, p. 167.

² *Giraldus Cambrensis*, Rolls ed., vol. vi, p. 133.

³ Another canoe is said to have been lying in this lake (*Arch. Camb.*, 1863, p. 335).

⁴ *Cambrian Journal*, 1861, p. 342. Figured, *Arch. Camb.*, 1874, p. 147.

⁵ *Proceedings*, 2nd Series, vol. i, p. 10.

It is recorded¹ that the writer² of the above account discovered 'stone implements', viz. 'celts, flint arrowheads, and a stone gouge' at a group of hut circles in Nant Gwynant, near the spot where the outflow from Llyn Llydaw reaches the main valley. 'In excavating one of the foundations' of these circles he also 'came to a quantity of slag, the refuse from smelting copper ore'.³

The hut circles composing this group belong for the most part to the larger type, being some 18 ft. in diameter,⁴ such as are to be found in quantities among the Muriau yr Gwyddelod close to Harlech. Several groups of the smaller type which predominates in this district are to be found close to the copper vein on the mountain slopes above Dinas Emrys.⁵

Brynkir Station Group.

For the details of the discovery of what is known as the Llanllyfni gold collar, or lunula (fig. 5), I have to thank Mrs. Jones, of Ynysfor, whose son, Major Bowen Jones, is the owner of the spearhead already described.

The collar was found a good many years ago, perhaps thirty or forty, in the freshly cut edge of a peat bog on the farm of Tir y Dewin, near Bwlch Derwyn (now marked on the map as Bwlch Derwydd) in the parish of Llanfihangel-y-Pennant, a mile north-west of Brynkir station and a few yards from the border of Llanllyfni parish.

A farm servant of Ymwilch Fawr was crossing the bog and noticed a yellow laurel leaf in the peat. After going on some way it dawned on him that a laurel leaf was a rather unlikely thing to find in a peat bog, so he returned and found that his leaf was of gold. He took his find to his master, by whom it was eventually sold on his behalf to the British Museum.

The collar is undoubtedly of Irish origin and measures rather over 9 in. across. I believe that no other find of a gold lunula has been recorded for Wales; but many (between sixty and seventy) have been found in Ireland; four in England (three of these in Cornwall); others in France (six); Scotland (four); while Belgium, Denmark, and Germany have each provided one example.⁶

¹ *Proceedings*, 2nd Ser. i, 161.

² Dr. G. Griffith, Taltreuddyn, near Barmouth.

³ Copper slag has also been found in hut circles in Anglesey (*Arch. Camb.*, 1892, p. 243).

⁴ See *Arch. Camb.*, 1903, p. 282 for plan and description. They are known as Muriau yr Dref (Town Walls) or Tre'r Gwyddelod (Irishmen's town), and are referred to by Sir John Rhys as 'that deserted centre of the ancient Goidel'.

⁵ The copper mine on the slopes of Snowdon above Lake Llydaw is said to contain ancient workings.

⁶ *The Bronze Age in Ireland*, ch. 4.

The next object is a sickle (fig. 6), which has been sharpened on both edges. It is not socketed but has one hole and a slight narrowing of the blade to facilitate its attachment to a handle. It measures $6\frac{1}{2}$ in. by 1 in.,¹ and is now kept in the museum of the University College of North Wales at Bangor; its presence to-night is due to the kind offices of Professors J. E. Lloyd and

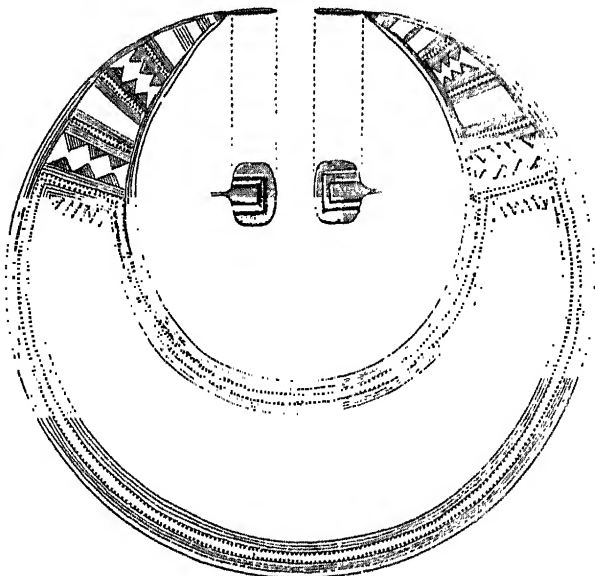


Fig. 5. GOLD COLLAR FROM LLANILLYFNI, (CARNARVONSHIRE ($\frac{1}{3}$)). (Reproduced, by permission, from the *British Museum Guide to the Bronze Age*).

O. H. Fynes-Clynton, of that university. Its history is best told in a letter from Mr. R. H. Evans, the Principal of the Madryn Castle Farm School, who deposited it in the college museum :

The Bronze Sickle you mention was found some years ago while digging peat in a bog belonging to Plas Llecheiddior. . . . It was found at a depth of about 4 ft., quite 30 years ago. I was a young boy at the time, and in later years when I realized the value of such a find, I made enquiries at the farm house, and found the Sickle had for years been used for greasing cart wheels—that is, was used to get the grease out of the grease pot.

The spot indicated is half a mile south of the station.

In *Archaeologia Cambrensis* for 1871, p. 20, is a woodcut and description of a palstave of unusual type, in that one side of the 'septum' is ornamented with a lozenge pattern. This was found on the farm of Mynachty Gwyn which lies $2\frac{1}{2}$ miles to

¹ Weight $3\frac{1}{2}$ oz. less 20 grains.

the west of Brynkir station and a mile from the small 'compound walled' fortress of Pen y gaer. Reference is made to this find by Sir John Evans in *Ancient Bronze Implements of Great Britain*, p. 77, but the farm is there erroneously described as being in Merionethshire, near Aberdovey.

Two more palstaves are described and illustrated in *Archæologia Cambrensis* for 1910 (p. 334). One of these was found at Pant yr ciniog a mile to the west of Brynkir station; the other, which is looped, was found within half a mile of the first at Efail Cenin.

In the month of March 1821, as described in the *Goleuad Cymru* in the following May, were found ten urns on the farm of



Fig. 6. SICKLE FROM LLECHEIDDIOR ($\frac{1}{2}$).

Llysdyd Isaf;¹ they were within a circle 10 yds. across, apparently surrounded by a stone wall and laid in a row; they were full of bones and ashes; in one was a 'piece of copper'. There were four stones of equal size protecting each urn, with a flat stone on top.

I owe this reference to the Rev. Henry Hughes of Brynkir, who also showed me the exact place where the find was made, as indicated to him by one who was present when the urns were first discovered. The spot is on a rising piece of ground less than $\frac{1}{4}$ mile north of Brynkir station, and not far from the place where a stone with an Ogam inscription was found in 1903.²

What appears to have been a similar find is recorded in *Archæologia*, vol. xxxiv, p. 67, in the course of a letter on the subject of the Ystumcegid dolmen. The letter is written by Nathaniel Neal Solly, Esq., and dated 16th November 1850 :

... in the adjoining farms of Llwyn-y Mafon-isaf and Bach y-Saint very ancient sepulchral urns made of clay have been dug up, as I am

¹ The field now belongs to the farm of Llystyn Gwyn.

² *Arch. Camb.*, 1903, p. 288, and 1907, p. 96.

informed by Mr. Ellis Owen, of Cefn y Meusydd [a Fellow of this Society], who discovered one himself in the spring of 1849. This urn contained ashes and a small bronze knife.

The spot indicated is about $3\frac{1}{2}$ miles south-east of the station. Another small triangular knife of bronze 2 in. long by $1\frac{1}{2}$ in. broad, with holes for two rivets, from an urn at Tomen y Mur, is illustrated, with the urn, in *Arch. Journ.*, 1857, p. 17.

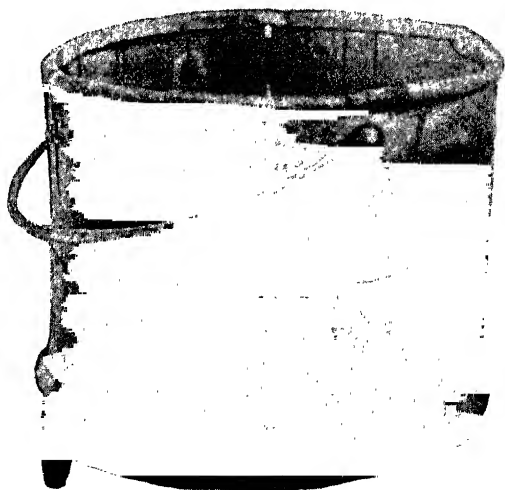


Fig. 7. BUCKET FROM TIR Y DEWIN ($\frac{1}{3}$).

I must mention one other object found in this district, namely a wooden bucket with a bronze handle (fig. 7). Mr. Neil Baynes has made a very careful drawing of the bucket and the 'inscriptions' on and in it, and these are now exhibited together with the bucket itself, which was found in 1881, in a bog at Tir y Dewin, by a farmer of the name of David Rowland, whilst digging peat.¹

Tir y Dewin has already been mentioned in connexion with the gold lunula. The name means 'The Wizard's Land', and it is tempting to imagine that this may be of some significance in view of the pentacles scratched on the bucket, to which reference is made later. Another form of the name, and that adopted on the later ordnance maps, is Ty'r Dewin, 'The Wizard's House'; while the old ordnance map of 1840 gives it as Tir Dewin. Tir y Dewin occurs in the Act of Parliament of

¹ *Arch. Camb.*, 1905, p. 255.

1842 authorizing the sale of the Mostyn estates in this neighbourhood.

What seems to be an earlier reference appeared in the same journal for 1886, p. 235 :

Find of Coins.—A number of coins, said to be one hundred and twenty-five, has been dug up on a farm adjoining that named Monachty Gwyn, in Caernarvonshire, belonging to Mrs. Jones Parry of Aberdunant, and at a spot not far from Bwlch Derwen. Previously to this a curiously hard and black wooden pail, somewhat similar in shape to the large tin milk-pails seen on railways, having golden hoops, and a handle at the top, was dug out of the turbarry. Both of these finds were made within a mile of Monachty Gwyn. The coins would seem to have disappeared, but the man who dug up the pail has since become suddenly rich enough to purchase two cows, which would seem to furnish grounds for conjecture that coins may have been discovered by him also, together with the pail.

It is most unfortunate that the coins were not preserved with the bucket as they might have thrown some light on its history.

The following quotation from a letter addressed to Edward Lhuyd¹ and dated December 30th 1694 may point to a somewhat similar discovery in Carnarvonshire :

‘The Urn that I mentioned to you was found about 10 years ago in a place in Caern:shire called mownog Grygog about a yd. deep in the ground; it is a wooden vessel about 6 inches deep and 10 Diameter, as I was informed, having one brass hoop about it, containing in it nothing at all but mud and some long, narrow, thin pieces of plate so corroded with rust that they would not endure handling; I have a piece of the hoop and that is all that I could get of it.’

I have not yet been able to identify the place indicated, as the name ‘Mawnog grugog’ merely means ‘heathery peat bog’ and a considerable part of the county would answer to this description; but there is some slight evidence to suggest that it may have been at Penmorfa, near which place were two stone circles—now destroyed—one of which was described² as being ‘by Mawnog Grigog’.

Mr. Baynes describes the bucket as follows: The sides and bottom are of yew. It is 7 in. high and $7\frac{1}{2}$ in. wide.

The sides are made up of three staves 7 in. long, which also form the three feet, and ten shorter staves $6\frac{3}{8}$ in. in length, and the bottom is $\frac{1}{2}$ in. thick, tapering to $\frac{1}{4}$ in. at the edge.

All the staves are wedge-shaped, being a little over $\frac{1}{2}$ in. thick at the bottom and about $\frac{3}{16}$ in. at the top or rim of the vessel. This rim is bound with bronze.

The handle, also of bronze, is from $\frac{1}{8}$ in. to $\frac{3}{16}$ in. in width

¹ *Parochialia*, iii, 108.

² Stukeley's *Itinerarium Curiosum*, pl. 80, 2 d, the drawing being derived from Lhuyd's notes.

and $\frac{1}{8}$ in. thick, of rectangular section and flattened at the ends. It is devoid of ornament and, when raised, stands $3\frac{5}{8}$ in. above the rim of the bucket. It is attached to the side by two plain blunt conical studs which are riveted inside over bronze washers. One of these washers is original and has a toothed design round the edge. On the outside the conical studs pass through ornamental bronze straps about $5\frac{1}{2}$ in. long and $\frac{7}{8}$ in. wide. The ends of the straps are bifurcated and branch from a hole $\frac{1}{8}$ in. in diameter.

Originally the staves appear to have been confined by three hoops in addition to the bronze rim. The lowest hoop at the present time is of thin bronze $\frac{3}{8}$ in. wide and probably in its original position. The middle and top hoops are restorations, and are of brass coated with some substance to simulate age.

One stave has been bored with a hole, close under the rim, now enlarged where the wood has broken away but originally about $\frac{1}{4}$ in. in diameter. On the inside of the bucket this hole is surrounded by a semi-oval mark, as if some object of this shape is missing.

This stave appears to be out of place, but it falls into position on the opposite side of the bucket.

It is possible that the hole was connected with some catch or fastening which held a lid in position.

If this reconstruction is correct the hinge of the lid may have been attached to the long stave immediately opposite from which about $1\frac{1}{2}$ in. of the top has been broken away.

It is evident that after the staves were first hooped lines were roughly made with a gouge-shaped tool on each side of the hoops—the intervening spaces being then rubbed down smooth.

On the exterior, between the top and middle hoops, are seven devices—two complete pentacles with dots at the intersections of the lines, two defaced or incomplete examples of inferior execution and without dots, a figure somewhat like a reversed capital E, and on the same stave another design having a slight resemblance to a running animal. Lastly, a tadpole-shaped figure between five nearly straight lines on the one side and curved or angular lines on the other side.

Inside and on the bottom of the bucket is a row of marks or characters, but from their position it is difficult to compare them with those illustrated in *Arch. Camb.*, 1905, p. 255. It would appear that some of the lines shown in this illustration are chance scratches or form part of the grain of the wood.

It is not clear that the bottom of the bucket is in its original position. One might almost assume that the flatter side would be found on the inside of the bucket and not, as we see it now, underneath the bottom. If in the course of restoration the

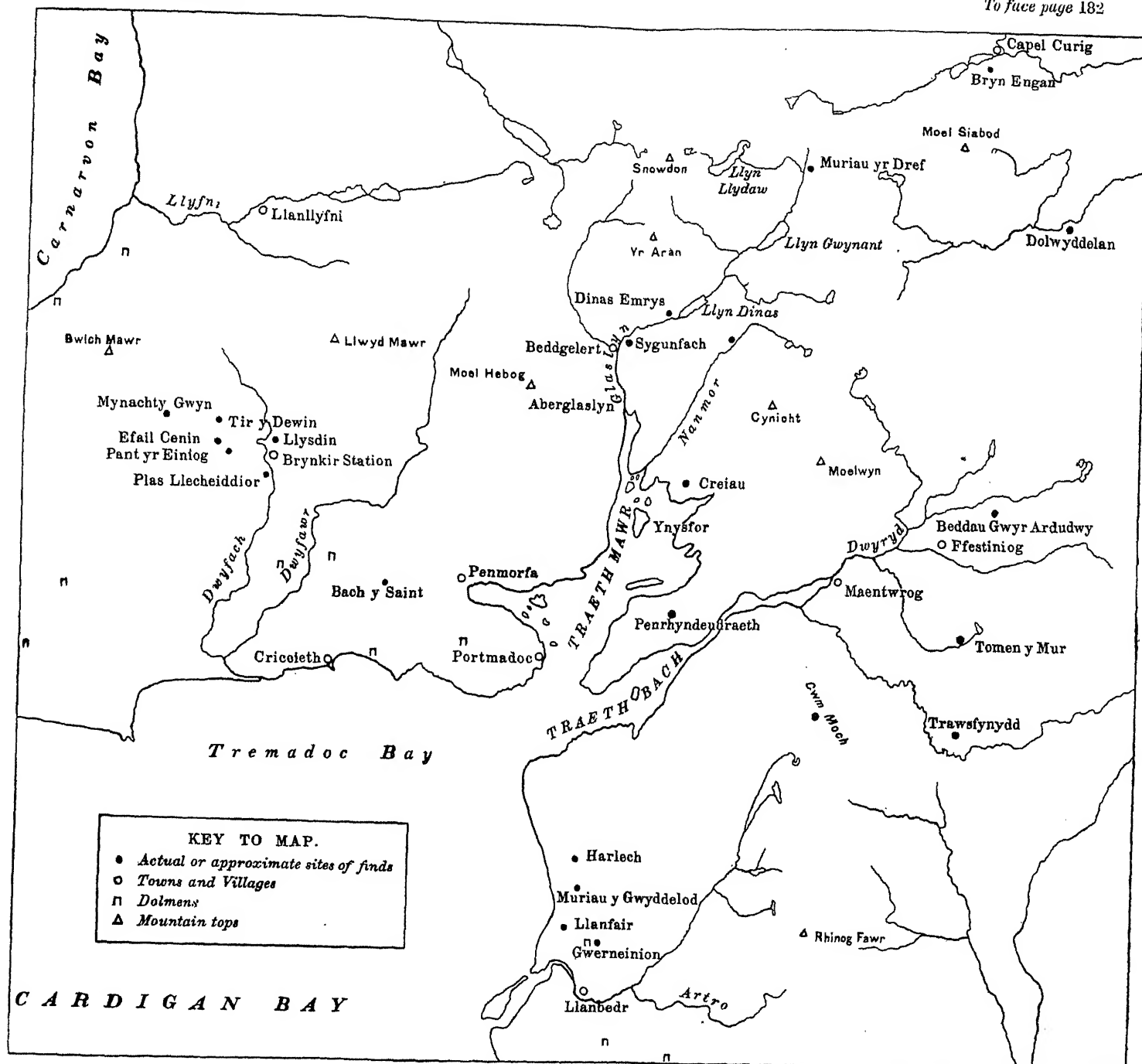


Fig. 8. MAP SHOWING POSITION OF FINDS, ETC.

bottom has been reversed the characters would originally have been in a more likely position on the underside of the bottom of the bucket.

Mr. HEMP also exhibited a stone seal matrix (fig. 9), the property of William George, Esq., of Criccieth, and gave the following description:

The seal was found in Carnarvonshire close to Criccieth, on the farm of Mynydd Ednyfed. It is of slate, and has evidently been made from a piece of the local stone, such as may be found in quantity in almost any field in the neighbourhood.

The date must I think be somewhere about 1200. The lettering is very rough, but even if, as I suspect is the case, the seal is 'home made', it would be difficult to date the lettering much later, and it might be earlier.¹

Apart from the rudeness of the execution I suggest that another detail points to a local origin, and to a possibility that the maker or designer was copying or working from an impression and not from a matrix; a thing which perhaps he had never seen.

You will notice that the lines round the outer margin of the inscription instead of being joined at the top run up to the edge of the stone, and I am inclined to think that the maker was working from an actual seal attached to a document.

The owner was rural dean of Lley, and although Criccieth is not actually in this deanery, but in that of Eifonydd, the boundary lies only a short distance to the west.

The inscription reads:

✠ SIGILL ENNI DECANI DE LLEIN

The S and all the N'S are reversed, and although this is a not very unusual occurrence in seal inscriptions I think it again points to an unpractised hand.

¹ The following seals bearing lettering with which that here shown may be compared are illustrated in the *Catalogue of Seals in the Department of MSS. in the British Museum*: vol. iii, pl. I, no. 1,198 (1179-1211); vol. iv, pl. X, no. 15,739 (c. 1190?); vol. v, pl. VI, no. 18,184 (1212); vol. v, pl. VI, no. 18,296 (1201); vol. v, pl. XIII, no. 19,373 (1199).



Fig. 9. STONE MATRIX FOUND AT CRICCIETH.

Ennius is, I take it, a Latin form of Einion, the more usual form being Anianus, whence the English Anian, and when I first saw the seal I hoped it might be possible to connect it with the well-known Anian bishop of Bangor who christened Edward II at Carnarvon in 1284. Before he became bishop he was archdeacon of Anglesey, but I have no earlier date for him than that of his consecration.

There was another Anian who was bishop of St. Asaph from 1248 or 1249 to 1267, but even if the dates would allow it, it would not be possible to 'affiliate' the seal without clear evidence, as the name Anian was by no means uncommon in Carnarvonshire in early times. Einion is a southern form, Einon a northern, and in Gwynedd it is Eingion or Eingnion, which becomes Engan, as Llanengan in Llyn.¹ It is barely possible that ENNII should read NENNII, Nennius being the Latin form of Nynnian, the English Ninian.

The fish bears a strong resemblance to the heraldic 'luce' or pike, and is, I think, much too ferocious to be a herring which he might otherwise be, as the herring fishery was in early days a great and profitable industry in western Carnarvonshire.

I have not so far been able to find another seal similar to this made of stone.

Mr. HEMP also exhibited a Roman gold brooch and a gold plate with a Greek inscription from Carnarvon, and made the following remarks:

With regard to the gold brooch and inscribed plate, I can claim to be little more than the 'carrier'.

Our Fellow Sir Vincent Evans wrote at my suggestion to Mr. Gwynedd Davies of Carnarvon, a member of the committee of the Public Library there, asking whether the objects could be lent to the Society for exhibition. The committee kindly agreed to the suggestion, and the objects travelled to London in my pocket a few days ago.

Their history since their discovery, so far as I know it, is illustrative of the dangers of local museums. They were found early in the last century, and were subsequently placed in the museum housed in Carnarvon Castle. When this was dispersed they, in common with most of the objects, disappeared from the public ken, and Professor Haverfield writing ten years ago in the *Transactions of the Hon. Soc. of Cymmrodorion* records the loss of both. Several of the one-time exhibits in the museum have now been placed in locked cases in the Public Library,

¹ See Sir J. Morris Jones's *Grammar*, p. 166. I owe this reference to Professor J. E. Lloyd.

and I am glad to say things are finding their way back by degrees. Both the brooch and the plate are now kept in the safe, and produced for the inspection of visitors who ask to see them.

The form of the fibula is clearly shown in the illustration. It will be noticed that there is a roughness on the upper side where the bow joins the crossbar, and a slight ridge just above this point on the edge of the bow itself where some projection has clearly been broken off. The probable form of this is made clear by an illustration¹ of a very similar gold brooch found at Odiham, Hampshire, which has a pointed spherical ornament (similar to those at each end of the crossbar) attached to the junction of bow and bar, the exact point where some ornament is missing in the Carnarvon specimen.

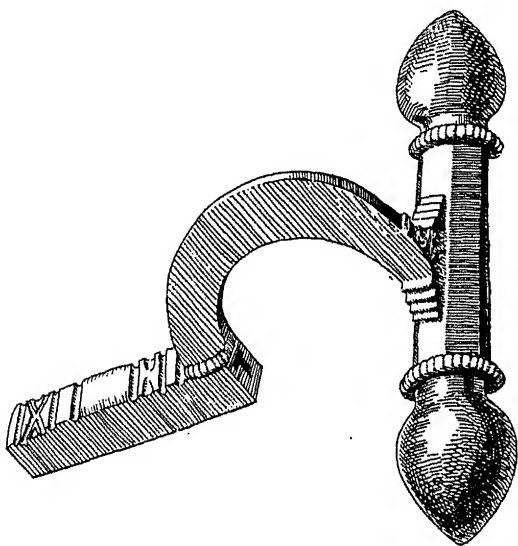


Fig. 10. ROMAN GOLD BROOCH FROM CARNARVON.

Another brooch, similar but made of bronze, is figured in *Collectanea Antiqua*,² and what seems to have been part of a Welsh example of gold is recorded³ as having been found in Montgomeryshire with other gold objects. This fragment is a short hexagonal tube terminated by an ornament which bears a strong resemblance to that found on the three examples already given.

On p. 145 of the *British Museum Guide to the exhibition*

¹ *Arch. Journ.*, vol. ii, p. 46.

² Vol. i, pl. III.

³ *Arch. Camb.*, 1890, p. 155.

illustrating Greek and Roman Life is a drawing of a gold fibula of similar type which shows clearly that the ornament missing from the Carnarvon specimen represents what was in some cases a functional part of the brooch, i. e. the head of the pin.¹

In the case of the object now exhibited the pin, which is missing, was hinged to a rod inside the hollow bar, and its point was held to the plate by a sliding cap which in its turn was kept in position by a shouldered tongue of bronze (of which the base only remains riveted to the end of the plate); this acted as a spring inside the cap, which it entered by a T-shaped opening on the principle of the simple snap fastening of a bracelet or necklace of the present day.

The dimensions are, length $2\frac{3}{4}$ in., width of head $\frac{1}{2}$ in.

With regard to the inscribed plate, a further note will, I hope, be laid before the Society before long.

The PRESIDENT thought any general discussion of the exhibits impossible, but was of opinion that the bucket showed Late Celtic influence. The inscriptions, however, resembled the cursive Roman inscriptions on some bronze vessels in Britain, and one of them could probably be deciphered. Hence the bucket might be assigned to the Roman period. The gold brooch dated about the fourth century, and he had one from Macedonia² remarkable for its catch opening, which closed with a latch. In South Europe the leaf-shaped sword had a curious relation to a dagger type found in Sicily and Crete, and he suggested a southern origin for that type.

Mr. REGINALD SMITH assigned the crossbow brooch to A.D. 350-400, and described the mechanism for holding the pin-point. It worked on the principle of the barrel-padlock, and he could think of no other example of that method. The brooch-type in question was more often than any other made of gold. A rarity among the exhibits was a Bronze Age blade with notches in the broad tang for rivets, but with a narrow leaf-shaped blade (fig. 3). The rapier had a long tapering blade and had for some time been regarded as the ancestor of the leaf-shaped sword, but hitherto no connecting link had been found, and the present specimen seemed to fill the gap satisfactorily. Reference had been made in the paper to Irish influence in the district, and the gold lunula confirmed such intercourse in the Bronze Age, so that it

¹ I have to thank Mr. Peers for a reference to another of these brooches which was found at Trieste and is figured in *The Arts in Early England*, vol. iii, pl. XXVIII, no. 2. The author in his description explains in detail the functional development of the various features of fibulae of this type: see also Chiflet, *Anastasis Childerici I*, (1655), 182.

² *Archaeologia*, xlviii. 100.

was possible to give Ireland credit for the transition from rapier to sword instead of seeking it in the eastern Mediterranean area.

Sir HERCULES READ had not seen the bucket before, but would prefer to date it to the fifth or sixth century. Such vessels were generally made on the same lines and there was little art about the present specimen. There were practical reasons for the extension of three staves to form feet, and the bronze mounts did not look 2,000 years old; but if much depended on its date he would give it further consideration.

Mr. DALE recognized the concentric rings on one of the spindle-whorls as Anglo-Saxon and would assign it to that period.

The PRESIDENT added that there was a certain amount of stylistic evidence in the bucket, which in a broad sense was Late Celtic, but he agreed with Sir Hercules Read that it did not belong to that period. The occurrence of Solomon's seal on the staves was of interest in connexion with the story of the witches.

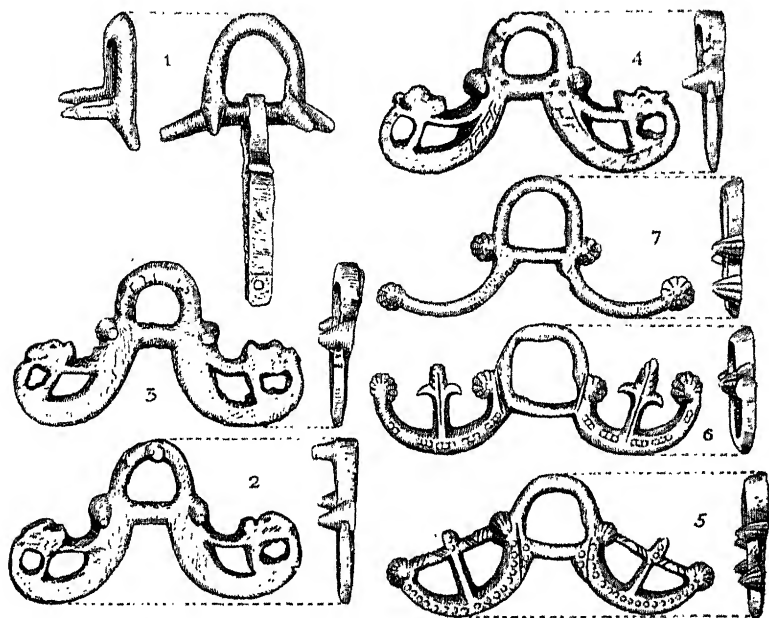
E. C. R. ARMSTRONG, Esq., F.S.A., Local Secretary for Ireland, communicated the following note on Cheek-pieces of Bridle-bits in the Museum of the Royal Irish Academy, Dublin.

Among the horse trappings in the Royal Irish Academy's collection is the specimen illustrated in the figure, no. 1. Being struck with its similarity to the so-called 'bow-pullers', I sent a drawing of it to our Fellow Mr. R. A. Smith, whom I knew to be interested in these objects. He suggested, when replying, that I should write a note about it and some specimens of cheek-pieces for horses' bits in the Academy's collection. Mr. Smith has since sent me a copy in proof of his paper 'Side-lights on Italian "bow-pullers"': I may say that his explanation of the real use of these objects seems to me convincing.

I believe the object in the Academy's collection to have been used as the cheek-piece of a bit, with the spikes (which had ceased to be functional and were a survival of those on the 'bridle-spurs') turned outwards. My reasons for this are, first, the form of the object, and secondly, the fact that the side without the spikes is roughly cast and apparently not intended to be seen: I also think the rein-tang has got misplaced and that it should be attached to the loop, not to the bar. The length of the bar is 59 mm., of the spike 16 mm., and of the loop 37 mm.

In the Academy's collection are a number of cheek-pieces

decorated with horses; one is illustrated by Wilde,¹ p. 608, fig. 514: the dating of these has long been a matter of conjecture; but Professor Flinders Petrie, to whom I showed drawings of several, wrote to me that they were 'obviously Celtic derivatives of the Etruscan pieces', i.e. of such cheek-pieces ornamented with horses as are figured by Montelius.² Other cheek-pieces in the collection of a similar shape are ornamented with dragons, such ornamentation being probably due to Norse influence, so that the dates of these may come down as late as the



CHEEK-PIECES FOR BRIDLE-BIT IN MUSEUM OF THE ROYAL IRISH ACADEMY.

period of the Norse occupation of Ireland. In some the ornamentation takes the form of a bow and arrow, or the centre becomes a trefoil, while in what may be a final form, a curved bar is all that remains.

Some of the 'dragon' and other forms have raised spikes round the opening to which the bit and rein-piece were attached: specimens of these are shown (fig. 2-7), the measurements being as follows: In 2 the total length of the cheek-piece is 98 mm., that of the longest spike from base to tip 13 mm., and of the loop 28 mm.; in 3 the length is 98 mm., while the longest

¹ *Catalogue of the Museum of the Royal Irish Academy.*

² *Civilisation primitive en Italie*, ii, pls. 178; 7: 181; 15, 16.

spike is 12 mm. in length, and the loop is 29 mm. long. In 4 the length is 100 mm., of the longest spike 14 mm., and of the loop 29 mm. Number 5 is 108 mm. in length, the longest spike is $10\frac{1}{2}$ mm. and the loop is $28\frac{1}{2}$ mm. long; number 6 is 110 mm. long, the longest spike measures 11 mm., and the loop is $30\frac{1}{2}$ mm. in length. The last, number 7, measures 105 mm. in length; the longest spike measures 9 mm., and the loop is 29 mm. in length. Unfortunately the details as to the finding and associations of these seven cheek-pieces have not been recorded.

There can be little doubt that the spikes in these examples had ceased to be functional and were retained on the outside of the cheek-pieces as ornaments; it is tempting to see in their retention a survival of those on the 'bridle-spurs'.

It would therefore seem that the association of spikes with horses' cheek-pieces continued for a long period: I think the examples in the Academy's collection strengthen the arguments put forward by Mr. Smith as to the real use of the misnamed 'bow-pullers'.

Thanks were ordered to be returned for these communications and exhibitions.

ANNIVERSARY.

TUESDAY, 23rd APRIL 1918.

St. George's Day.

WILLIAM MINET, Esq., M.A., Treasurer, and afterwards

Sir ARTHUR JOHN EVANS, Knt., D.Litt., F.R.S.,
President, in the Chair.

Harold Sands, Esq., and Edward Neil Baynes, Esq., were appointed scrutators of the ballot.

The PRESIDENT delivered the following address :

GENTLEMEN,

It did not lie, I imagine, within the expectations of any of us that a fourth anniversary of the Society should see us still involved in the Great War. Unfortunately it is so, and again I am called upon to address you in the midst of pre-occupations that affect us all. It is certainly a subject for congratulation that in spite of the difficulties and delays with which we have to contend, the publications of the Society should have been con-

tinued and that its financial position should remain substantially unimpaired.

The name of one of our Fellows appears on the Roll of Honour. Otherwise the greater part of our losses has been due to old age. In the absence of our Assistant Secretary, engaged on war work, I have to thank our Librarian, Mr. George Clinch, for the collection of many biographical details concerning our deceased Fellows.

The following Fellows have died since the last Anniversary :

Edward Jackson Barron, 23rd March 1918.

Rev. Arthur John Beanlands, M.A., 26th September 1917.

Rev. William Done Bushell, M.A., October 1917.

Edwin Charles Clark, LL.D., 20th July 1917.

Rev. Thomas Stephen Cooper, M.A., 10th January 1918.

Rev. Edward Samuel Dewick, M.A., F.G.S., 10th December 1917.

John Temple, Marquess of Dufferin and Ava, 6th February 1918.

Philip Berney Ficklin, 1st November 1917.

John Ribton Garstin, 16th June 1917.

George Grazebrook, 11th August 1917.

Rev. William Greenwell, M.A., D.C.L., F.R.S., F.S.A. Scot., 27th January 1918.

Thomas Hesketh Hodgson, 18th October 1917.

Sir Charles Holroyd, Knt., D.Litt., 17th November 1917.

Thomas M'Kenny Hughes, M.A., F.R.S., F.G.S., 9th June 1917.

Henry Laver, F.L.S., 31st August 1917.

Sir Edward Letchworth, Knt., 18th October 1917.

Thurstan Collins Peter, 4th September 1917.

Newton, Earl of Portsmouth, 4th December 1917.

John Quekett, M.A., 31st July 1917.

Walter Lewis Spiers, 28th May 1917.

Hamon le Strange, M.A., 25th March 1918.

William Chapman Waller, 28th July 1917.

Sir James Whitehead, Bt., 20th October 1917.

The following have been elected :

Percy Walter Lewis Adams.

Henry De Vere, Lord Barnard.

Ven. William Cunningham, D.D., F.B.A., Archdeacon of Ely.

Sir Evan Vincent Evans.

George Francis Farnham, M.A.

Arthur Foulkes-Roberts.

Stephen Gaselee, M.A.

Rev. Claude Jenkins, M.A.

William Longman.

John Bowyer Buchanan Nichols.
Frederick Arthur Harman Oates.
Albert Victor Peatling, M.B., B.C.
Ven. Ernest Harold Pearce, Archdeacon of Westminster.
Thomas Wilson Parry, M.A., M.D.
Charles James Phillips.
Rev. George Chatterton Richards, M.A.
William Scoresby Routledge, M.A.
Brigadier-General Herbert Conyers Surtees, C.B., D.S.O.
Lelio Stampa, M.A.
Frank Stevens.
Frederick Anthony White.
Wyatt Wyatt-Paine.

As Honorary Fellow :

M. Antoine Héron de Villefosse.

The following have resigned :

Alfred Billson.

Sir William Edward Davidson, K.C.M.G., C.B., M.A., K.C.

Samuel Robert Scargill-Bird.

The name of Second-Lieutenant JOHN QUEKETT appears on the last year's 'Roll of Honour'. He was the son of the late A. E. Quekett, Legal Assistant to the Local Government Board, Dublin, and grandson of Professor John Quekett, F.R.S. Born in 1884, he was educated at Merchant Taylors' School and Trinity College, Dublin, and early showed great attachment to the study of architecture. He served his articles as an architect under Sir Thomas Drew, and as a draughtsman showed extraordinary proficiency. He was for some years sub-editor of *The Builder*, and also architectural editor of the *Victoria County History*, to which he made valuable contributions.

In 1916 he obtained a commission in the Black Watch, and he took part in much fighting in the autumn of that year. He was wounded and reported missing on 31st July 1917, and his body was subsequently recovered and received the last honours. His Commanding Officer wrote: He was 'always full of good humour, however trying the circumstances, keen on his work, considerate to his men, and brave to a fault. He will always remain in our memories as a very gallant gentleman.' At the time of his death he was thirty-three years of age.

Mr. Quekett was elected a Fellow of the Society in 1915.

The Rev. WILLIAM DONE BUSHELL, who died on 27th August 1917 in his seventy-ninth year, at his residence, The Hermitage, Harrow-on-the-Hill, had been for over fifty years a Master at the School. There he had endeared himself to many generations

of Harrow boys, and among other wholesome movements, had taken an active part in the first organization of the School Volunteer Corps.

For a long period of years he had devoted himself to the history of Harrow and its neighbourhood. He published several chapters relating to its earlier stages, from Offa's time onwards, with notes and translations, and sketched the history of the Harrow rectors from the twelfth to the sixteenth century. He threw light on the connexion of Lanfranc and Anselm with Harrow, and on the meeting there of St. Thomas of Canterbury and Simon, abbot of St. Albans in 1170. These and other writings were included by him under the title of *Harrow Octo-centenary Tracts*, written to commemorate the eight-hundredth anniversary of the church in 1894.

Mr. Bushell's antiquarian zeal, however, also found another field in South Wales. Some twenty years ago he acquired the island of Caldey, in Pembrokeshire, and made a summer home of the house which forms part of the Tironian Priory.

He contributed various papers to *Archaeologia Cambrensis* on the local stone circles, such as those of Prescelly, and on various researches concerning ecclesiastical and other antiquities. Among his last works were communications on 'St. Chadd and St. Cedd, two Brother Bishops' (1916), and two papers on 'The Lady Margaret Beaufort and King Henry VII'.

Mr. Bushell was himself a son of South Wales, having been born at Cardiff, and his Welsh researches found recognition in his creation as a bard, 'Ynyswr Pyr', of the Gorsedd. He was a Scholar and Fellow at St. John's College, Cambridge. At Harrow he was the first master to command the School Rifle Corps.

By the death of our Fellow the Rev. THOMAS STEPHEN COOPER, of Chiddingfold, the Surrey Archaeological Society has suffered a great loss. He had been associated with that Society for many years and for some time acted as its hon. secretary, conjointly with our Fellow Mr. Mill Stephenson.

His most important work is a *Catalogue of the Church Plate of Surrey*, which first appeared in a series of papers in the *Transactions* of the Surrey Society. This is recognized as a monumental work, and contains illustrations of the most important pieces, together with a record of the makers' marks. He was also a great authority on the ancient glass works of West Surrey, the site of some of which was at Chiddingfold, where he resided. Among other facts he discovered that the glass works were in existence in the neighbourhood as early as the thirteenth or fourteenth century, and an impromptu lecture that he gave on these old works at the Old Haslemere Exhibition some years

ago is remembered for the vivid interest with which he invested the subject. He possessed remains of the ancient crucibles, and was able to reconstruct more than half of some of the glass vessels that he had unearthed. Mr. Cooper's knowledge of glasswork sites was of the most intimate character, and he could point out on the ordnance map where each one stood.¹

'Mr. Cooper', writes a personal acquaintance, 'was a man of most kindly disposition, ever ready to place his store of knowledge at the disposal of others.' He did much to forward antiquarian interests in his neighbourhood and was a promoter and constant benefactor of the Haslemere Educational Museum.

He was elected a Fellow in 1894. He died on 10th January of this year.

In the Rev. EDWARD SAMUEL DEWICK, who died on 10th December last, the Society has lost an eminent ecclesiologist and liturgical student. He was educated at Merchant Taylors' School and St. John's College, Cambridge, and gave early proof of very wide interests, including geology and botany as well as Hebrew, numismatics, and general archaeology. He had served on the Council of our Society on several occasions and, besides his solid contributions, had made interesting exhibitions of ivory and alabaster carvings. Two papers of his are included in *Archaeologia*, (1) On a MS. Psalter formerly belonging to the Abbey of Bury St. Edmunds (*Archaeologia*, vol. liv), and (2) On a MS. Pontifical of a bishop of Metz in the fourteenth century (*Archaeologia*, vol. liv).

To the Royal Archaeological Institute, of which he was a member, Mr. Dewick contributed an important paper on 'Consecration Crosses'.

He was for some years editor of the St. Paul's Ecclesiological Society, to which he made some interesting communications. Among these may be mentioned, as illustrating the early character of his researches, one on 'Coronation Services of the English and French Kings', and another 'On some masses of St. Ethelbert, K.M., in a MS. Missal of Hereford use'.

Mr. Dewick was the honorary treasurer and a lifelong member of the Henry Bradshaw Society, for which he edited *The Coronation Book of Charles V of France*. He also edited for Sir Thomas Brooke, Bt., *The Metz Pontifical*, issued in a magnificent form to the members of the Roxburghe Club.

As an earnest of his goodwill to the Society Mr. Dewick has bequeathed two brasses and some valuable books.

MR. WALTER LEWIS SPIERS, who died on 28th May 1917, was Curator of the Soane Museum, which he has done so much to

¹ *Surrey Times*, 19th January 1918.

render available to serious students. He was an expert in matters of London topography, and a valued member of the committee of the London Topographical Society. He had collected in the course of numerous journeys undertaken for that purpose, much material to illustrate the life and work of Nicholas Stone, the statuary and architect of the Jacobean Age, and of his sons, following up clues given by Stone's Account Book, which is in the Soane Museum. Happily these materials seem to be in some directions fairly complete, and it is understood that the Walpole Society contemplates the publication of his special photographs and MSS.

He was himself quite a recent member of our Society, having been elected on 20th January 1916.

Students of Irish antiquities will feel the loss of Mr. J. R. GARSTIN, a Vice-President, and for some time President, of the Society of Antiquaries of Ireland, and for some years Treasurer and at various times Vice-President of the Royal Irish Academy. He was born in Dublin in 1836, and educated at Cheltenham College and Dublin University, also graduating M.A. at Oxford.

He collaborated in several antiquarian works, amongst which may be mentioned the *Records of Cork, Cloyne, and Ross*, with his uncle, the Rev. W. Maziere Brady, and the Rev. Ambrose Colman, O.P., in his edition of Stuart's *Armagh* and of *de Annatis Hiberniac*. The last great work in which he had a considerable share was Mr. C. J. Jackson's *Illustrated History of English Plate*. He also made many contributions to the *Journal* of the Irish Antiquaries, including one on the 'Maces, Swords, and Insignia of Irish Corporations' (1898). He possessed a fine library at Braganstown, and was always ready to assist fellow students.

In Mr. GEORGE GRAZEBROOK the Society has lost one of its oldest Fellows, for he was elected on 30th April 1857. He was born at Glasgow 4th July 1831, and died at his residence, Clent, Staffordshire, on 11th August 1917, at the advanced age of eighty-six years. He was the son of Henry Grazebrook, iron merchant and India merchant, who belonged to an old Staffordshire family, and was engaged in business successively at Glasgow and Liverpool, in which his son became a partner. At the time of his death he had been a Fellow of this Society for sixty years. Mr. Grazebrook was deeply versed in heraldic and genealogical lore.

His friend, Mr. J. Paul Rylands, who has kindly communicated a list of his publications, observes that 'he was a very industrious worker and was always willing to help those who needed such information as he could give'.

The following titles of papers by him will give the best idea of his activities in the field of research that he had made his own :

Harleian Society (with J. P. Rylands).

Visitation of Shropshire, 1623. 2 vols. 1889. G. G. wrote the Introduction.

Historic Society of Lancashire and Cheshire.

An Attempt to classify and date the various shapes found in Heraldic Shields, 1889 (xli, 1-76).

The Earl Marshal's Court in England, comprising Visitations and the penalties incurred by their neglect. 1894 (xlv, 99-140).

William Salt Archaeological Society.

Shenstone Charters, 1897. (xvi).

Miscellanea Genealogica et Heraldica.

Pedigree of Grazebrook (3 S. iii).

Various forms of spelling Grazebrook (3 S. iii).

A Curiosity from the Court of Star Chamber (4 S. i).

Relative values of money 1065 and 1163 as compared with the present time (4 S. v).

Heraldic and Physiological curiosity, 39 children from one father and mother (3 S. v).

Vadelectus, Valet, &c. (4 S. i).

Grazebrook descent from 1065 (4 S. ii, iii, iv).

Letter of Henry Earl of Richmond (4 S. v).

Birth and youthful career of the same (4 S. v).

Pedigree of Owen (2 S. ii).

In Mr. THOMAS HESKETH HODGSON, who died at Newby Grange near Carlisle in October 1917, the Society has lost another aged Fellow. He was in his seventy-sixth year. He was a son of the late Canon Hodgson and nephew of Mr. W. Nicholson, M.P., and for many years took a considerable part in local affairs. He was an active member of the Cumberland and Westmoreland Antiquarian and Archaeological Society and made many contributions to our knowledge of the antiquities of that region. Among these may be mentioned his account of 'the Village Community in Cumberland as instanced at Halltoun' (*Transactions C. & W. Soc. O.S. XII*) 'A century of "paines" from the "Paine Book" of Weathermelock' and a collection of extracts from the Registers of the Privy Council of the reigns of Henry VIII, Edward VI, and Queen Mary relating to Cumberland and Westmoreland. His antiquarian interests centred on the Roman Wall, in the investigation of which he was constantly occupied. He was aided in this work by his wife, a daughter of the late Rev. H. W. Cookson, D.D., Master of Peterhouse, Cambridge.

Mr. Hodgson was President of the Cumberland and Westmoreland Archaeological Society from 1909 to 1915.

Together with Mrs. Hodgson he contributed to vol. iii of the Cumberland and Westmoreland Society's *Transactions* 'Notes of Excavations along the Roman Wall in Cumberland, 1894-

1906', which were carried out with the co-operation of Prof. Pelham and Mr. R. P. L. Booker. He was subsequently the chief local member of the Cumberland Excavation Committee. Prof. Haverfield, who has played such an important part in directing the course of the researches made by this Committee, writes of their labours during its ten years' activity:

'He and Mrs. Hodgson took a prominent part in its work; they gave up much time every summer to the supervision of the actual excavations, and they minutely and very carefully surveyed and planned the results. This activity produced not only a great saving of funds, which would otherwise have had to be spent on professional surveyors, but yielded also plans drawn with more understanding of the meaning of the excavations than a professional surveyor could have had. It is also largely due to Mr. and Mrs. Hodgson's energy that fairly full reports of the work could be issued punctually year by year—a feature which distinguishes these excavations from others undertaken in the last few years on the Wall. Of the value of the work and the results obtained, this is not the place to speak. This much, however, may be stated here that the work had a special aim, somewhat distinct from that of the other mural diggings, and was in the nature of pioneer inquiry; it presented problems which are both new and devoid of precedents to guide the workers; in consequence here and there mistakes may have been made, which our successors will find, and, indeed, have found the more easy to correct. Unquestionably the help given unweariedly by Mr. and Mrs. Hodgson was of great value, and it is no small gain to have had on the Excavation Committee a Cumberland landowner, who was so well known in his own district, and who commanded so fully the confidence and respect of landlords, as well as of the farmers and other occupiers of sites to be excavated. It was also a great thing to have among the antiquaries of Cumberland one who took so deep an interest in the excavation of the Wall; and it was a high privilege to those others who were with him, engaged in the work, to have as colleague so genial and friendly a fellow-worker, ready at all moments to co-operate to the best of his ability, and ready also to smooth the way by most kindly and inexhaustible hospitality.'¹

By the death of the late Dr. HENRY LAVER on 31st August last, at the advanced age of eighty-seven, the Essex Archaeological Society has lost one who had been for forty years Member of its Council and from 1903 to 1908 its President. He served the cause of Archaeology in Essex in many ways, and did much to increase the collections of the Colchester Museum, of which he was made Hon. Curator in 1902. His personal interests lay rather on the side of Natural History. He published a work on the *Mammals and Fishes of Essex*, and was President of the Essex Field Club. The greatest debt that archaeology owes him is unquestionably his loyal support of the Curator of the Museum, Mr. Arthur Wright, in his competent work of classifying and arranging the unique British and Roman collections of Camulodunum—a work which, in spite of

¹ *Trans. C. and W. Soc., N.S.*, xvii, p. 264.

the inconveniences of the building, gives the Colchester Collection a distinguished place among those of our local museums. The loss of Mr. Wright to the Guildhall Museum, which all antiquaries deplore, was Colchester's great gain.

Dr. Laver was elected a Fellow of our Society in 1888. He served as Local Secretary to the Society, and made several communications to our Proceedings, including one on 'Late Celtic Pottery found in Essex', and on 'A Late Celtic burial found at Colchester'. His most important exploration was that of the unique Roman building at West Mersea, of which he demonstrated the wheel-shaped plan.¹

The Essex Archaeological Society has suffered another serious loss in the death, on 28th July 1917, of its late Treasurer, Mr. WILLIAM CHAPMAN WALLER, M.A., who was elected a Fellow of our Society in 1892. He was for long engaged on two laborious undertakings relating to Essex antiquities. One of these was a systematic collection under Hundreds of 'Essex Field-names', transcribed from the Tithe Commutation awards. The other, entitled 'Some additions to Newcourt's Repertorium', was an important contribution to the parochial history of the county. Many papers of his on local history are included in *Transactions of the Essex Society*, including one on the extinct Wroth family of Loughton Hall. He devoted himself with great industry to the transcription and careful editing of original records bearing on local matters, and the volume on *Essex Fines* was due to his initiative and superintendence. In 1891, in collaboration with our Treasurer, Mr. W. Minet, he transcribed and edited the *Registers of the Protestant Church at Guisnes*, and in 1898 the *Register of the Church known as La Patente in Spitalfields*.

Mr. THURSTON COLLINS PETER, who died on 4th September 1917, was a well-known Cornish antiquary. He was born in 1854 at Redruth of an old Cornish family, the Peters of Harlyn, and was educated at Sherborne College. He afterwards joined his father as a solicitor, and held many local offices, taking a deep interest in Poor Law administration.

He found time, however, outside his professional work, to devote himself to antiquarian and historical researches in his native duchy. He succeeded Mr. J. D. Enys as President of the Royal Institution of Cornwall, and was largely instrumental in securing the erection of a new wing to the Institution of Truro.

Among his contributions to the *Journal* of the Institution

¹ See *Proceedings*, xvi, p. 426.

of which he became sole editor, may be mentioned Notes on the 'Superstitions in the Mining District', 1897; on the church of St. Just-in-Penwith, with eleven plates, 1899; on St. Michael's Mount, with seven plates, 1899; on the churches of St. Mylor and St. Mabe, with ten plates, 1900; A Report (with Mr. J. D. Enys and Mr. H. M. Whitley) on mural paintings in Cornish churches, 1901; 'Piran Old Church', with six plates, 1904; Notes on the church of St. Ives, with four plates, 1905; 'Tristan and Iseult', 1907; A Note on Cornish folk-tales, 1909; 'Churchwardens' accounts at Camborne', 1909; 'The St. Columb Green-book', 1912; 'The Padstow Hobby Horse', 1913; 'The Bodmin Gospels', 1913; Presidential addresses, 1912, 1913, and 1914; and Notes on Cornish folklore, 1915. He also made communications on these and similar subjects to the Royal Cornwall Polytechnic Society.

Among his separate publications was one on *The Cornish Drama*, the *History of Glasney Collegiate Church*, and a *History of Cornwall for Schools*. He also thoroughly revised and re-wrote Collins's *History of Cornwall*.

He made careful explorations of the hut circles of Carn Brea, discovering neolithic implements there. 'This', wrote his friend, Mr. Henry Jenner, F.S.A., 'was the first really important work done on that site, and won for him the Henwood gold medal.' Another work of great interest was that on the lost Piran Church, to the preservation of which he devoted himself. The St. Columb Green-book was a subject in which he revelled.

With Mr. Jenner and Mr. J. B. Cornish he formed a Committee of the County Council for the survey and preservation of the Cornish monuments, a task interrupted by the War and now made the more difficult through his death. In him, in the words of his friend, Cornwall has lost a unique personality, richly endowed with knowledge and sympathy, and of inexhaustible generosity.

He was elected a Fellow of the Society in 1914.

By the death of Mr. WORTHINGTON GEORGE SMITH, F.L.S., our Local Secretary for Bedfordshire, at the age of eighty-two years, the Society has lost the services of one who, though his main work lay in the study of funguses and plant diseases, showed himself an unwearied investigator of the works of primeval man. His discovery of an important 'Palaeolithic floor' on a hill-top at Caddington, near Dunstable, in 1885, was an achievement made the more valuable by the patient care with which he reconstituted the scattered chips of the flint implements and the fine draughtsmanship with which he illustrated them. This

was followed, as it had been preceded, by other discoveries of the kind, and he himself found nearly two thousand flint implements in the Thames Valley and elsewhere. The history of Dunstable itself also owes much to his researches. He was awarded a Civil List pension in 1902 in consideration of his services to archaeology and to botanical illustration.

Professor THOMAS McKENNY HUGHES, F.R.S., who was born at Aberystwith in 1832, died at Cambridge on 9th June 1917, in his eighty-fifth year. At Cambridge he had been Woodwardian Professor of Geology for forty-five years. His life-work chiefly lay within the domain of the science that he officially represented, but he still found time to give solid evidence of his keen interest in archaeology. The antiquarian field in which he was most at home was naturally that which lies on the borderland of the two sciences. Already in 1876 and 1877 he published papers on the question of Preglacial Man and on the proofs afforded by the river-gravels and brick earth for the 'Antiquity of Man', followed up in succeeding years by many others on similar themes.

But he in no way confined himself to this borderland. At the time when he acted as the Secretary of Mr. (afterwards Sir) Charles Newton, then H.B.M.'s Consul in Rome, Mr. McKenny Hughes could not have failed to be affected by the classical tastes of his chief, and he never ceased to give evidence of his interest in Roman antiquities. His own work mainly lay in the field of the early antiquities, including the Romano-British, of his own country, and in particular of the Cambridge district. He was a most active member of the Cambridge Antiquarian Society, for which he served the office of President. He occupied himself in a special manner with the ancient ditches of the Fenland, but his investigations extended in this as in other subjects far beyond local limits, as will be seen from his comprehensive study of Offa's Dyke in *Archaeologia*, vol. liii. He also did much to illustrate the Roman potteries of Cambridge and its neighbourhood, taking at the same time a comprehensive survey of the Roman potter's art in Britain. Some of his most interesting researches are contained in his paper in *Archaeologia*, vol. lv, on the more important breeds of cattle which have been recognized in the British Isles at successive periods.

His services to geological science in his own University were largely bound up with the Memorial Museum to his distinguished predecessor in the Chair, Prof. Sedgwick. Its erection was, in fact, largely due to his indefatigable energy and perseverance, and its successful organization was the result of his superintendence.

The death on 17th November last of Sir CHARLES HOLROYD, late Director of the National Gallery, following so soon on his resignation, leaves a void in the artistic world which it will be hard to fill. He had the satisfaction, however, before failing health entailed his retirement, of seeing the bequest of Sir Henry Layard secured to the nation. With our Society his connexion was unfortunately shortlived, his election dating from 2nd March 1916.

In Prof. EDWIN CHARLES CLARK, Professor of Civil Law in the University, Cambridge has lost another distinguished son. His chief contribution in connexion with our own subjects were his work on *Early Roman Law* and his *History of Roman Private Law*. He was elected a Fellow of this Society in 1886. In 1901 he communicated a learned paper published in the *Proceedings*, 'The Lapis Niger and the alleged Law of Numa.'

Unquestionably the severest loss suffered by the Society in the past year is that of Dr. WILLIAM GREENWELL, F.R.S., who died at Durham on 27th January last, after nearly concluding his ninety-eighth year. It may be truly said of him that he was the 'Grand Old Man of British Archaeology'. The Society has already given expression to its high respect for Dr. Greenwell and his work in the resolution which I here take the opportunity of reproducing:

The Society of Antiquaries desires to place on record its profound regret at the death of Dr. William Greenwell. Many of its Fellows share the sense of personal bereavement. All of them feel that the science of antiquity, in its various bearings as regards our own country, on the historic as much as on the prehistoric side, has lost a Master. The period of over seventy years, over which his activities extended is itself unexampled; and the Society recognizes in him not only a patriarch in the field of British Archaeology, but a pioneer to whose enlightened researches its successful direction has been largely due.

So wide was the scope of his labours, so extensive was the period over which they range, so many proofs were given by him of fundamental research in various departments of historical and archaeological science, that it is impossible for me on this occasion to do more than attempt a summary sketch of his achievements.

He was as much an authority on the history of his own Cathedral Church at Durham as on prehistoric archaeology, and his researches range in other directions from Scandinavian brooches to Greek coins.

Dr. Greenwell was the son of the late William Thomas Greenwell, J.P., D.L., and was born at Greenwell Ford, near Durham, on 23rd March 1820. He was educated at Durham Grammar

School, where he was King's Scholar, and graduated B.A. in Durham University in 1839. He entered the Middle Temple to prepare for the Bar, but on account of ill-health returned to his own University, and after taking a theological degree entered into Holy Orders, becoming later Bursar, Chaplain, and Pemberton Fellow in the University. After acting as Perpetual Curate at Ovingham-with-Mickley, he became Principal of Neville Hall, Newcastle (a hall of residence for students of the College of Medicine) in 1854; and in 1856 Chaplain and Censor of Cosin Hall, Durham. In the same year he was appointed Minor Canon of Durham Cathedral—a post he held for fifty-four years, and in 1862 was made Librarian to the Dean and Chapter of Durham. He was elected a Fellow of our Society in 1868, and ten years later a Fellow of the Royal Society.

As has so frequently been the case with English savants, civic duties occupied a large part of his activities. He filled numerous local offices and was a J.P. for the county of Durham, Chairman of Petty Sessions, a Poor Law Guardian, and a County Alderman. He also joined the Durham Volunteers, and was among those reviewed by Queen Victoria in Holyrood Park on 7th August 1860.

Equally characteristic and equally English is the fact that he never forgot his upbringing as a son of a country gentleman. His fishing exploits were well known. He landed fine salmon at the advanced age of 97, and the 'Greenwell' fly and the trout fly known as 'Greenwell's Glory' may long commemorate his prowess.

His grandfather on his mother's side, Mr. Smailes, a Durham solicitor, had been a friend and neighbour of Surtees, the historian, and, as a favourite grandson, he had been often taken with him on his visits to his friend, when he had an opportunity to talk over historical subjects. It was thus that, in 1843, he became a member of the Surtees Society, with which a good deal of his earlier literary work was connected. From 1852 onwards he edited five volumes for that Society including the *Boldon Buke*; *The Pontifical of Egbert Archbishop of York*; *Bishop Hatfield's Survey*; *Wills and Inventories illustrative of the History of the Northern Counties*; and a *Survey of the Priory and Convent of Durham in the Fifteenth Century*.

His youthful associations had also stirred his antiquarian interests in another way. The Roman Camp at Lanchester lay on his father's estate. It was a great attraction to him as a boy, and he spent much of his leisure time in investigating it.

In 1846 he had been elected a member of the Tyneside Naturalists' Field Club, of which he became president in 1862. From 1865 to the date of his death he served as president of the Durham and Northumberland Architectural and Archaeological

Society, and made constant contributions to the Proceedings of this and other northern societies.

A bald enumeration of papers communicated by Dr. Greenwell to this Society, the Society of Antiquaries of Scotland, the societies and field clubs representing our northern counties, would by itself give an almost unique example of archaeological activity—wide in range and maintained over a period of more than two generations. In 1881 he published a short *History of Durham Cathedral*, displaying on every page his profound knowledge of the subject; and in 1899 he followed this with an account of the sculptured stones in the cathedral library which he had collected. He found in its library a confused mass of charters dating from the earliest days of its abbey, to the cataloguing and arranging of which he devoted much time, and persuaded the Chapter to fit up the large room over the college gateway for their reception.

In this, the domestic field of his labours, he was continually cheered by the dawn of a new era as regards his beloved cathedral itself. The interest in its history which he did so much to create was accompanied by the growth of wiser views with regard to the fabric and by a revival of its inner life. Very different was the picture fixed in his own early memory, which went back to a time when there were neither seats nor services in its nave and the north aisle was covered with green slime, along which the boys used to slide from one end to the other!

Dr. Greenwell was as much distinguished as a scientific collector as for his indefatigable field-work. His choice series of flint implements is now incorporated in Dr. Allen Sturge's private museum. His collection of prehistoric bronze implements, in many ways unique, was purchased by Mr. J. Pierpont Morgan and presented by him to the British Museum. But Dr. Greenwell's own generosity had already enriched the National Collection by a valuable series of objects illustrating the Stone Age in Norfolk, and many other prehistoric antiquities in addition to those that he had himself excavated.

It is characteristic of the breadth of his archaeological interests that he communicated a series of papers to the Numismatic Society principally on Archaic Greek coins and the Eレクトrum Coinage of Cyzicus, afterwards published in a separate form. Of these he himself formed a magnificent collection, though he finally disposed of it by sale for family reasons, and they are now in the Boston Museum. In a broader field his keen artistic eye is well illustrated by a single anecdote. He 'picked up' a water-colour which he suspected of being, as it proved to be, a genuine work of Turner, for twenty-five guineas, which afterwards fetched £2,000.

His largest and in many ways his most important published work was *British Barrows, a Record of the Examination of Sepulchral Mounds in various parts of England*, which was supplemented by remarks on the prehistoric crania by Professor Rolleston. It was published in 1877, and contains careful descriptions of the exploration by the author of over two hundred and thirty sepulchral mounds, in Yorkshire and the north of England. Apart from the introduction, the book is unfortunately marred by the singular dearth of illustration, or of plans and sections of the barrows explored. The record, however, is meticulously careful, and the objects themselves have been happily preserved in a collective form by his gift to the British Museum of the relics obtained in the course of his excavations. I venture therefore to suggest that the best memorial of his archaeological work would be a re-publication of this work, with full illustrations of its objects brought to light, and with the careful plans and sections that, doubtless, exist among his literary remains.

Among Dr. Greenwell's most important contributions to British Archaeology must certainly rank two papers communicated by him to this Society in quite recent years. One of these read on 23rd March 1905—his eighty-fifth birthday—is entitled 'Early Iron Age Burials in Yorkshire'. It includes an account of some of the principal interments of the 'Danes Graves' or barrows of the Driffield district of the East Riding, once occupied by the British branch of the Belgic Parisii, supplemented by hitherto unpublished details of the Arras barrows belonging to the same region. The paper thus throws a new light on that interesting epoch in our insular history when the new race of Belgic invaders, representing the later wave of Celtic expansion, was establishing its conquests throughout a large tract of Britain. In these great mounds we see the relics of a form of culture bearing witness to the age-long contact of the Continental Celts with the civilized races of the Mediterranean lands.

The iron weapons with their finely plated sheaths and enamelled bronze hilts, the coral-set pins and fibulae, the bronze mirrors, and last but not least, the war chariots and elegant horse-trappings, bring these Yorkshire grave-mounds into the closest relation to the similar interments of the Marne, dating from the third and preceding century before our era.

The other archaeological paper referred to was written in Dr. Greenwell's ninetieth year in collaboration with his nephew, our Fellow Mr. William Parker Brewis. It was communicated to the Society on 29th April 1909, and is devoted to the 'Origin, Evolution, and Classification of the Bronze Spearheads in Great Britain and Ireland'. This paper, which is illustrated

by eighty-five figures, is of capital importance in its bearing on the history of this weapon in the British Isles, to whose inhabitants, so far as they represent the ancient race, its fully demonstrated conclusions may be a source of legitimate pride. It is there clearly shown that the bronze spear-head in Britain was of purely independent origin. It was derived from a tanged dagger-blade with ferrule added, the tang finally disappearing as the ferrule was transformed into a socket, which extended itself up the full length of the blade, thus forming a midrib. All the stages of this evolution are found in this country, and the resulting type is confined, except for a few exported specimens, to the British Isles.

From its first inception, the spear-head of the United Kingdom has a character of its own, quite different from that found elsewhere. In addition to the variety of forms through which it had developed in Great Britain and Ireland, in no other part of the world did the spear-head attain such perfection of form and fabric as it does in the countries in question.

Active to the last, Dr. Greenwell formed a unique personal link between the old and the new. He himself must be numbered among the distinguished band of pioneers who rank as the founders of the new school of Prehistoric Archaeology. A favourite dictum of his, 'Never mind theories, collect facts', has been recently repeated, but no one knew better than he how to draw acute conclusions from the evidence that he had unearthed. The void created by Dr. Greenwell's death will be widely felt by students of antiquity in this country, and, as one with whom his friendship may be spoken of as hereditary and who from his earliest years had been brought up to regard him as a master in his craft, I may be allowed here to give expression to the general sense of loss that we have suffered. Of the man himself, stark and strong, abounding in old-world reminiscences and racy anecdotes, somewhat caustic in his humour but full of genuine human kindness, this is not the place to speak.

We must not blink the fact that the course of recent events has been rapidly and progressively increasing the difficulties with which our Society and all organizations interested in the continuity of the work of research have to contend. The old idea on which civilized States have hitherto rested, that no mean function of the prowess of the fighting forces was to maintain intact such continuity, seems to have been thrown over by those who govern us. Already, early in the present struggle, a signal exhibition of this spirit was presented, when the Galleries of the British Museum at Bloomsbury were entirely closed, to save, it was calculated, the British Treasury the

expense of three minutes of the War! The value, indeed, of the learned labour of those engaged in the Museum Departments, in the eyes of our politicians, could not be better illustrated than by the example of a promising scholar transferred to an office where his principal function seems to have been the consideration of light beers!

But the closing of the Galleries, the cutting off of grants, the wholesale dislocation and complete paralysis of the Institution, the diversion of its personnel, and the misappropriation of trained capacities thus entailed, were, it appears, only the prelude to a more serious attack, imperilling the building itself as well as the National Treasures within it.

At the end of last year the Air Board, after a 'surprise' visit on the part of their representative, to the Museum, requested the War Cabinet to be allowed to requisition it for their headquarters. Against this proposal to make the Museum the seat of a Combatant Department and a legitimate butt for German bombs, the Trustees, who are responsible to the nation for the safe keeping of the building and its treasures, unanimously protested, but in the teeth of their protest the order to commandeer the Museum was actually given by the Cabinet. The sequel is of common knowledge. This monstrous proposal, which both as a Trustee of the Museum and as President of your Society I did something to expose, raised a general storm of indignation not only among the accredited representatives of Art and the Historic Sciences, but throughout the Press and among the general public. The Society of Antiquaries itself drew up a strong remonstrance, and was followed by the British Academy and other learned bodies.

This unanimity of protest had its effect, and the obnoxious order was withdrawn. But perhaps the most characteristic feature in the whole episode was the unfeigned surprise expressed by the authors and abettors of the proposal at the public outcry which it had called forth!

Even as it is, the Civilian Departments that have been thrust into the Galleries of the Museum have done much by the wholesale dismantling to which they have given occasion, to aggravate the injuries already caused by the withdrawal of the more precious objects to places of greater safety. In one case—that of the Department of Greek and Roman antiquities—weeks of labour in the clearing out of three large galleries, to the final undoing of the work of a century and a half, was entailed by the wanton caprice of a Government Department which, after having occasioned all this trouble and expense, came to the conclusion that after all they did not find the accommodation suitable! And in the case of other Galleries

that have been actually occupied by such Departments, what guarantee is there for their speedy departure even after the conclusion of the War? Where indeed are they to go? Are they likely to cease to be? We may be very sure that the mushroom bureaucracy that is now springing up in every direction will stay if it can, and of the multiplication of public offices and 'Boards of Control' there seems to be no end.

It would appear that even proper means of publication may be practically denied to ourselves and other sister societies. Not only are we constrained to postpone the issue of *Archæologia*, but even our *Proceedings* are threatened. The Society of Antiquaries, in association with the Royal Society and other learned and scientific bodies, is indeed endeavouring to obtain some modification of the wooden ordinance of the Paper Controller which would impose upon them the identical restrictions that it applies to the purveyors of the most ephemeral trash. I do not of course intend to apply that expression to the shoals of official reports, regulations, forms, and pamphlets that are literally spawned upon us, and which seem to multiply in the inverse ratio to the scarcity of paper.

But it is not paper shortage alone with which we have to contend. The printing presses of the country have been largely sequestered to provide for this official superfetation. I am informed by a responsible authority, that the Oxford University Press on which we ourselves depend for the issue of our works, and the chief object of which has ever been learned scientific and educational publication, is so entirely monopolized by the old and the new bureaucracy as to absorb some 99 per cent. of the personnel and for the time at least to exclude all other work. This surely does not constitute a legitimate and reasonable user—which under present circumstances might well have been considerable—but wholesale appropriation. Over and above that, moreover, the most expert workers on the staff are threatened with imminent transference to unfamiliar fields.

Do not let me be misunderstood. It cannot be the wish of any patriotic citizen to complain of the deprivations and sacrifices entailed by this period of national stress. In our own case good sense alone would counsel a limitation of our output and economy in the use of paper or other materials. But it is surely the essence of such processes that the transition should be gradual, and that the rightful demands of our rulers should be accompanied by proper safeguards at least sufficient to secure the continuity of that part of our national activities that is represented by a Society like our own, or by the various Departments of the British Museum.

None of us I imagine would make anything more than a

modest claim for the value of his own work. Yet in sum these activities count, and form an integral part of our civilization. But the treatment of the British Museum, the incalculable destruction there of the results of generations of learned labour and classification, the commandeering—for there is no other word—of the University Press, show that those who control our Administration are inspired with a Philistine spirit for which we shall in vain seek a parallel among civilized Governments. Ruthless proscription, the result of panic action, threatens at every turn the very sanctuaries of learning. Those who represent its interests are doubtless a very inferior race in the eyes of politicians. We are not concerned to dispute their verdict, but it is well to remind these that even the lowest tribes of savages are left their reservations.

The following resolution was thereupon proposed by the Right Rev. Bishop GEORGE FORREST BROWNE, D.D., D.C.L., Vice-President, seconded by HORACE SANDERS, Esq., and carried unanimously:

‘That the best thanks of the meeting be given to the President for his address, and that he be requested to allow it to be printed.’

The PRESIDENT signified his assent.

The Scrutators, having handed in their report, the following were declared elected as officers and council for the ensuing year:

Eleven Members from the Old Council.

Sir Arthur John Evans, Knt., M.A., D.Litt., F.R.S., *President.*

William Minet, Esq., M.A., *Treasurer.*

Sir Edward William Brabrook, Knt., C.B., *Director.*

Charles Reed Peers, Esq., M.A., *Secretary.*

Right Rev. Bishop George Forrest Browne, D.D., D.C.L.

William Dale, Esq.

Lieutenant-Colonel George Babington Croft Lyons.

William Page, Esq.

Colonel John William Robinson Parker, C.B.

John Challenor Covington Smith, Esq.

Emery Walker, Esq.

Ten Members of the New Council.

Sir William Martin Conway, Knt., M.A.

Rev. George Herbert Engleheart, M.A.

Edward Hudson, Esq.
Sir Thomas Graham Jackson, Bt., R.A.
Edward Thurlow Leeds, Esq., M.A.
Willoughby Aston Littledale, Esq., M.A.
John Seymour Lucas, Esq., R.A.
Charles William Chadwick Oman, Esq., M.A.
William Henry Quarrell, Esq., M.A.
Sir Aston Webb, K.C.V.O., C.B., R.A.

The Rev. Arthur Frederick Sutton was admitted a Fellow.

THURSDAY, 2nd MAY 1918.

WILLIAM PAGE, Esq., Vice-President, in the Chair.

The following gifts were announced, and thanks for the same ordered to be returned to the donors:

From the Author:—Catalogue of the Roman pottery in the Museum, Tullie House, Carlisle. By Thomas May, F.S.A. 8vo. Kendal, 1917.

From the Author:—The church plate of the Saffron Walden deanery, Essex. By Rev. G. Montagu Benton. 8vo. Earls Colne, 1917.

From the Author:—Memorials of the church of St. John the Evangelist, Princes Street, Edinburgh. By Rev. G. F. Terry, F.S.A. 8vo. Edinburgh, 1918.

Charles James Phillips, Esq., was admitted a Fellow.

The CHAIRMAN announced that the President had appointed Sir William Martin Conway a Vice-President of the Society.

W. PALEY BAILDON, Esq., F.S.A., read a paper entitled Notes on the early history, form and functions of Paul's Cross, as follows:

Paul's Cross seems at first sight a rather threadbare subject. Stow, Dugdale, Brayley, Wilkinson, Charles Knight, and others, have all written about it; Dean Milman, in his *Annals of St. Paul's Cathedral*, has much to say of it incidentally,¹ while in

¹ As has Canon Sparrow Simpson in his *Chapters in the History of Old St. Paul's*.

1892, Mr. John B. Marsh published a small work, entitled *St. Paul's Cross; the most famous spot in London*. This last is in the form of a chronicle, and contains many useful and interesting notes, but without any references to original sources.

Most of these authors deal with the subject rather from the political and polemical side, and there is not a little beating of the Protestant big drum. I propose to investigate the more purely historical aspect, with a view to ascertain, if possible, the reason for the existence of Paul's Cross, its original functions, and the form of the original structure.

The later structure is familiar to most of us from the curious painting which until lately adorned our staircase, and has now gone into cold storage 'for the duration'. An elaborate account of this, with a careful engraving, was published by Wilkinson in *Londina Illustrata*.¹

The pulpit here shown is said to have been put up by Thomas Kempe, Bishop of London. The exact date is not known; various years from 1449 to 1470 have been suggested. It was an octagonal structure of wood, standing on a stone base, and having an ogee-shaped roof covered with lead, surmounted by a cross. Stow describes it as 'a pulpit crosse of timber, mounted upon steppes of stone, and covered with leade, standing in the midst of the churchyard, the very antiquitie whereof was to him unknown' (ed. 1598). We have one other small piece of evidence that the pulpit was made of wood, for in 1553 a dagger was thrown at the preacher, which missed him and stuck in one of the posts.

The stone and brick foundations of the platform on which the pulpit stood were uncovered by Mr. F. C. Penrose in 1878-9, and the result of his discoveries will be found in *Archæologia*, xlvii, 381 *et seq.* His plan, showing the outline of the two cathedrals superimposed, also indicates the exact place of the foundations of the cross; it stood on the north side of the presbytery, and the north wall of Wren's church is practically on the line of the south side of the octagon.

No one, I imagine, would contend that the name of Paul's Cross could possibly have been given to this wooden pulpit; it was, as we know, inherited from an earlier erection, and, as I hope to show, there are some slight indications to guide us in guessing what this may have been like.

But before going into this evidence, we may profitably consider how there came to be a cross on this spot, and what were its functions.

¹ One of the two copies of this work in our library is imperfect, and wants the letterpress which should accompany this plate.

The clue lies in a return to a writ of *quo warranto* in 1287, from which we learn that there had been a dispute between the king and the cathedral authorities as to the right of the latter to inclose a piece of ground for the enlarging of the church-yard; the king apparently objected to the inclosure on the ground that the citizens of London had been anciently wont to hold their folk-moot there. We shall find other evidence in support of this statement.

The folk-moot was one of the English institutions which were not interfered with by the Normans, and was common to most Teutonic and Scandinavian tribes. In its later development as the Hundred Court it performed many judicial functions, which were gradually superseded by the growth of the county court and the assize system; its earliest rôle was probably that of a meeting of local notables for the purpose of discussion, more or less informal settlement of disputes, and what we nowadays call Local Self-Government.

One of the peculiar features of these meetings was that they took place in the open air and not in any building. This is shown clearly by the names of the existing Hundreds and Wapentakes (the Wapentake being the Dane-Law equivalent of the Saxon Hundred), many, if not most, of which simply indicate the place where the meeting was held. These show a large preponderance of open-air places of assembly, the bulk of which are not even in a town or village, but at some spot in open country. The Tynwald Mound in the Isle of Man, still used for many of its primitive purposes, is a case in point. The various names show that what was aimed at was a perfectly definite and unmistakeable spot for the place of meeting, which might be a natural or an artificial feature, as most conveniently available. We get names of Hundreds ending in hill, or cliff, or tree, or some particular kind of tree, such as oak, ash, or thorn, among the natural features.

Among the artificial features, we find low or bury, no doubt a burial mound, bridge, ford and stone, the last always, I think, referring to a sepulchral stone and cross. I have made a list of all the Hundreds ending in cross that I can find, though it is possibly not exhaustive. There are eight, viz.: Faircross (Berks.), Normancross (Hunts.), Brothercross and Guiltcross (Norfolk), Singlecross (Sussex), Ewcross, Osgoldcross, and Staincross (Yorks.), to which we may perhaps add Buckrose (Yorks.).

Even where the name of the Hundred now coincides with that of a town, of which there are many examples, it does not follow that any habitation existed at the spot when the folk-moot first met there and acquired a name. Hertford, for in-

stance, must have been the name of a ford before the springing up of any town there. Many other examples might be cited.

We are assembled at the moment in the Hundred of Ossulstone, that is Osulf's Stone, probably a noted sepulchral stone, I believe somewhere near the south end of what is now Edgware Road. The next Hundred on the west is that of Spelthorne.

Even cities and those boroughs which had their own folk-moots held these assemblies in the open. The mound known as the Dane John at Canterbury was in all probability the site of the folk-moot there, while that at Southampton was held at a mound surrounded by a group of trees outside the late city walls, and was known as Cut-thorne.

London, therefore, with its open-air meeting-place, is merely following the general example, but the exact place of meeting raises some interesting questions. It must, I think, have begun long before there was any cathedral church of St. Paul on the spot; but the very fact of the meeting there shows that the locality was in the earliest days of the Saxon occupation one of great importance or even celebrity, and the argument is worth following up by the students of Roman London.

How early was a cross of any sort erected on the spot? There is no evidence, and so we cannot say; but it would be quite in accordance with what we know of the work of the early Christian missionaries in heathen England that they should choose this noted meeting-place to put up a rough cross and there preach the gospel. This of course is mere conjecture, and it is not until 1241 that I find actual documentary evidence of Paul's Cross. Dean Milman and other writers, it is true, give a story of 'inflammatory harangues' there in 1191, by one William FitzOsbert; but the chronicles cited as authority do not mention Paul's Cross, and Ralph de Diceto, the dean of St. Paul's, who must surely have known, expressly states that these speeches were delivered in the cathedral itself, *in ecclesia Doctoris gentium Pauli*.

In 1241 the king met the assembled citizens of London at Paul's Cross in relation to a projected visit to Gascony in connexion with the French war,¹ and from that date onwards we get numerous references to the cross, the earlier ones for the most part recording meetings of the citizens there. In 1261 occurs the first instance of something in the nature of a royal proclamation at the cross, when the king ordered a Papal bull to be read there,² thus introducing another function which afterwards became common.

In 1270 nine bishops attended at the cross for the public

¹ Riley, *Chronicles*, p. 9.

² Fabyan, *Chronicles*, p. 347.

reading of another bull,¹ and in 1299 the then dean of St. Paul's solemnly cursed a number of persons who had been excavating in the church of St. Martin le Grand for a supposed hidden treasure.² In 1311 the new statutes made in the parliament of that year were published and proclaimed at Paul's Cross.³ Another account of the same incident gives us a valuable variant, for it is stated that these new ordinances were published in the great churchyard of St. Paul's *super cruce[m] lapideam*.⁴

In 1380 the sentence of excommunication against the emperor was published at St. Paul's *ad cruce[m]*, the preacher being William de Renham, the chancellor of the church, and the bishop being present.⁵ We are not expressly told that this was Paul's Cross, but I think there can be little doubt of it, and if so, this is the first recorded instance of a sermon there. How much earlier they began we cannot say, but by 1361 they were a recognized institution. In that year Michael de Northburgh, bishop of London, provided by his will a sum of 1,000 marks, as a fund from which loans might be made on the deposit of sufficient pledge or security. Each loan was to be for a year only, and if not repaid at the end of the term the preacher at Paul's Cross to declare in his sermon that the pledge would be sold within fourteen days.⁶

In 1378 there is a note of the bishop of Carlisle preaching in St. Paul's Churchyard.⁷ After this date references to the sermons at the cross become increasingly frequent until its final destruction.

In 1382 the cross was much damaged by a tempest or earthquake. There were two earthquakes according to Stow, one on May 21 and the other on May 24; the former was most vehement in Kent, 'where it suncke some churches and threw them downe to the earth'.⁸ Five years later the archbishop of Canterbury (Courtenay), the bishop of London, and other bishops, issued letters inviting contributions for the repair and restoration of the cross,⁹ and promising an indulgence of forty days to subscribers. From this we learn some interesting details; 'the High Cross in the greater churchyard of the church of London, (where the Word of God is habitually preached, both to Clergy

¹ Riley, *Chronicles*, p. 128.

² Stow (1754), vol. i, p. 644; Fabyan, p. 400.

³ Riley, pp. 224, 225.

⁴ *Annales Paulini*, Rolls Series, vol. i, p. 270.

⁵ *Ibid.*, p. 351.

⁶ Dugdale, *St. Paul's*, p. 25.

⁷ Riley, *Memorials of London*, p. 415.

⁸ *Annales*, p. 295.

⁹ For the Latin text see Simpson, *Documents*, etc., p. 7; for translation, *Chapters in the History of Old St. Paul's*, p. 164.

and Laity, being a place very public and well known), by strong winds and tempests of the air and terrible earthquakes hath become so frail and injured, that unless some means be quickly taken for its repair and restoration, it will fall utterly into ruin.

In 1561 Alexander Nowell, dean of St. Paul's, preaching in aid of the fund for the rebuilding of the spire and roof of the cathedral, which had been set on fire by lightning and completely burnt, alleged that great sums of money were collected for the repair of the cross, all of which were misappropriated by the archbishop and the bishops who made the appeal.¹ The dean cannot have had any personal knowledge of what took place close on 200 years before, and there is no contemporary evidence to support his statement. I do not believe a word of it. In Elizabeth's reign every party, both in church and state, displayed great ingenuity in inventing malignant lies about its opponents, and just as an Italian will invoke every saint in the calendar to bring an apoplexy on his enemy's grandmother and curse the souls of his dead, so no doubt Nowell thought it a good move to denounce some half-dozen long deceased catholic prelates as common thieves. It was all part of the game.

If Archbishop Courtenay's account of the condition of the cross may be trusted, and he most probably had seen it in its damaged state, repairs were urgently needed. I believe they were made, for two years after his appeal the references to the sermons and proclamations begin again, and there is no talk of rebuilding for another sixty years at least.

In quite a number of these the cross is again called the High Cross, showing that the old name was still used and indicating in all probability that the old cross had been repaired or at any rate rebuilt in its old form.

In 1443 the spire of St. Paul's Cathedral was struck by lightning and partially destroyed.² The accounts of this storm do not record any damage done to Paul's Cross, and it is perhaps a mere coincidence that the pulpit which took its place should have been erected so soon afterwards. This was done by Thomas Kempe, bishop of London from 1450 to 1489; the exact date is not recorded. Bishop Godwin³ says that it was in the form now seen, and adds the date 1616. Wilkinson⁴ gives the year 1449; Kempe had been appointed bishop by papal bull dated 21st August 1448, but did not receive the royal assent until 4th February 1450. It is possible, therefore, that 1449 is correct,

¹ Stow.

² Kingsford, *Chronicles of London*, pp. 155, 156.

³ Godwin, *De Praesulibus Anglicae Commentarius*, under Thomas Kempe.

⁴ *Londina Illustrata*.

but Wilkinson gives no authority. Dugdale states that Kempe's arms appeared in several places on the leaden roof.¹

After this we get no more references to the High Cross, the last being in 1430, and indeed such a term would be most inappropriate to the rather dumpy pulpit which took its place.

These conclude the relevant historical notes, and it remains to consider whether anything can be deduced from them as to the form of the earlier cross. It goes without saying that it was not a mere pulpit like the later one. This design seems to have been evolved from a fourteenth-century type, of which several remain. The one at Iron Acton, Gloucestershire, shows that it in turn was evolved from what perhaps may be called the 'Eleanor' or memorial type, by substituting for the solid base a sort of undercroft or vaulted space, supported by four or more buttresses, thus making a preaching alcove or pulpit. The later Paul's Cross seems very like these, without the tall spire surmounting it. This type is literally a 'preaching cross', since it is primarily a cross with a pulpit added to it. This type seems also to have developed into the market, poultry, or butter-cross, in which the undercroft is enlarged and the spire diminished. Of these we have several very beautiful examples, notably those at Chichester, Salisbury, and Malmesbury.

But the original Paul's Cross was clearly, I think, not a memorial cross, and it seems therefore doubtful if it conformed to this type in any way. Its original function, as we have seen, was apparently to lend greater dignity to the royal proclamations, and, if so, we must look for another pattern altogether. I have not found any of what I may call the 'proclamation' type of cross in any book on English crosses, though it is quite possible that such exist, or did until the wanton destruction wrought in the last 150 years or so. There are, however, several of these 'proclamation crosses' in Scotland, and drawings exist of others now destroyed. Lithographs of a considerable number of these will be found in a very interesting paper, entitled 'Notice of some Stone Crosses, with especial reference to the Market Crosses of Scotland', by James Drummond, R.S.A., F.S.A.Scot., published in vol. iv of the *Proceedings of the Society of Antiquaries of Scotland*, pp. 86 *et seq.* Mr. Drummond's paper was written in 1860, and was inspired by the proposal to rebuild the old 'Mercat Cross' at Edinburgh, erected in 1617, and taken down in 1756. 'Market or town crosses (he says) were generally placed in some large open space of a town, such a position being chosen not only to show where the market was held, but as a centre from which edicts, either royal or burghal, might be proclaimed, and where civil offenders

¹ *St. Paul's*, p. 88.

might be punished.' Now, apart from the matter of the market, this exactly describes the functions of Paul's Cross. He gives drawings of the crosses at Edinburgh, Aberdeen, Dundee, Perth, and Preston (Haddington), and thus describes the type: 'In Scotland they generally consisted of a pillar raised upon a flight of steps, or a solid basement without steps of any sort', and sometimes 'of a larger building, having a stair inside leading to the roof, which was surrounded by a parapet, and from the centre of the roof the pillar sprang'.

The Edinburgh Cross was rebuilt as a copy of that of 1617; nothing appears to be known of the earlier cross, though one undoubtedly existed on the old site in the Nether-bow. Mr. Drummond gives a conjectural sketch of the earlier cross, apparently based on some fragments at Abbotsford which Sir Walter Scott thought had formed part of it. Scott is not a very satisfactory expert on such a point, and he was very credulous where Scotch relics were concerned. Drummond's view shows a flight of five steps, surrounded by a low wall with a gate in it; in the centre is an octagonal basin on a low pillar, like a large font, and from the middle of this rises the cross-shaft. The effect is that of a Brobdingnagian candle-stick, and is not convincing.

The 'Mercat' or High Cross at Edinburgh, as we now see it, consists of a substantial stone structure of octagonal shape, with a flat top or platform, from the centre of which rises a shaft. As you will see, the design is primarily adapted for the purpose of proclamations, since the flat top is large enough to hold all the necessary officials, while its height raises them well above the heads of the listening crowds. The proclamations of the accessions of the late King Edward and of his present Majesty were made from this platform, and pictures of these ceremonies appeared in the illustrated papers of the day. You will remember that one of my notes states that in 1311 certain new statutes were published *super crucem lapideam*. The phrase certainly suggests something more than a standing on the top of a stepped base such as we find in crosses of various types. The speaker or reader in such a case would be raised only a very few feet above the surrounding level, and he could hardly, one would think, be described as standing *super crucem*. But any one on the platform of the Edinburgh Cross is certainly *super crucem*, and it would be difficult to find a better phrase.

I must digress here for a moment to emphasize a point of some importance, though often overlooked. It is a curious fact that while English documents of the fourteenth and fifteenth centuries (and even later) show a remarkable indifference to spelling, and are often so badly expressed and involved as to be

almost unintelligible, documents written in French are much better in both these particulars, and those in Latin show a wonderful uniformity in spelling, precision of language, and a sense of the value of words.

The explanation I take to be that Latin was taught as a foreign language, but English almost wholly, and to a less extent French, were picked up colloquially from parents, nurses, brothers and sisters, and the like. Complaints of the same neglect of our mother tongue crop up periodically at conferences of head masters and others engaged in education in our own day.

One result of this was that the scribe writing in Latin had a much nicer sense, than when writing in English, of the accurate shade of meaning attached to a particular word, and he chose his phraseology accordingly. If I am right in this, and I think most students of medieval documents will bear me out, it follows that *super crucem* means something rather different from *ad*, *apud*, *prope*, *iuxta*, or any other preposition; the writer had in his mind a situation of which *super* and only *super* conveyed the appropriate meaning. For these reasons I think that the original Paul's Cross must have been of the type of the Edinburgh and other Scotch crosses, but I am not sufficiently versed in the history and development of architectural forms to say whether this form would be possible in 1241 or earlier.

So far as I know there is no drawing of the old Paul's Cross, but it is not at all improbable that one may exist in some illuminated volume of chronicles. The topographical illustrations in these are often, perhaps generally, imaginative, but not always. You will all remember the very charming illumination of the White Tower, with one side removed to show Charles of Orleans holding a council or something of that sort. After allowing for this vagary, the details of the Tower are not merely recognizable, they are accurate. I have looked at one or two MSS. at the British Museum hoping to find Paul's Cross, but without success so far. I hope the Fellows will bear it in mind, and I do not despair of one being found.

The CHAIRMAN remarked that the earlier Hundred Courts were held at a stone or tree in order that the people might assemble at a prominent landmark. A tree was evidently chosen in the hundred of Edwinstree, Herts.; and the Cassio court was held at an ash within the precincts of St. Albans Abbey. The later hundreds in Wessex were named after towns, and the courts were no doubt held there, but in the open air, not in a building, for fear of evil spirits. The assize courts were also held in the open, as in York at the porch of the cathedral church. He thought it better to classify crosses chronologically than according to the purposes

they served, as their use differed according to their period. There was room for a comprehensive work on these lines. Paul's Cross seemed to belong to the category of churchyard crosses. The best thanks of the meeting would be accorded for an interesting paper.

The Rev. L. GILBERTSON called attention to the position of a group of choirboys in the picture above the principal gallery against the church; and mentioned that Mr. Penrose had found the drain of a 'house of office' by the wall on the left. The share of the corporation in the services was still shown by the fact that the list of morning services was always signed by the clerk at the Guildhall: the Paul's Cross sermon was thus perpetuated. The fabric rolls of St. Paul's were practically complete; and a large series, which had never been properly examined, might enable Inigo Jones's work to be traced.

The Rev. H. F. WESTLAKE remarked that there were earlier dates for the ceremonial use of the cross than the proclamation of Pope Urban's bull in 1261. With reference to this occasion the king had been in conflict with his nobles as to the appointment of itinerant justices, and proposed to annul the articles agreed on in the parliament at Oxford. The bull assailed the king and all others who had sworn to the maintenance of these articles. The first occasion that Mr. Westlake had met with of the use of the cross by the king was in 1259. There had been the discovery at Windsor of a roll of unknown origin, containing an indictment of the mayor and rulers of London, showing that the commonalty had been grievously taxed and wronged by them. The king sent Justice Mansell to read the roll at the cross and assure them that the king's pleasure was that their proper liberties should be preserved. In 1257 the king called a folk-moot at the cross and attended in person, promising to preserve the citizens' liberties. In 1258 the sovereign again met his subjects there, but the reason was unknown. In the following year he attended a folk-moot with the king of Almain and other notables, when proclamation was made that every stripling should take the oath of allegiance to the king and his heirs; and it was in 1274-5 that Walter Harvey was elected mayor at a folk-moot at Paul's Cross. At a later date the master and wardens of the Guild of our Lady of Roncesvalles used to pay four pence to have their pardon proclaimed at the cross in order to secure greater publicity among pilgrims. St. Sepulchre's only received two pence for the same service.

Mr. EMERY WALKER referred to Ossulstone hundred and the

stone that was responsible for the name. Mr. George Turner had found a plan (since published by the London Topographical Society) on which Ossulstone was marked a little east of Stanhope Gate. Another plan in the possession of the Duke of Westminster showed Ossulstone near an enclosure indicated by a dotted line.

Dr. NORMAN asked for further particulars of the painter of the diptych belonging to the Society.

Dr. MARTIN said all the essential particulars were to be found in Mr. Geo. Scharff's catalogue of the Society's pictures and in the *Gentleman's Magazine*. The paper demonstrated the necessity of interpreting such pictures, which were not to be taken literally.

Mr. REGINALD SMITH had seen one of the maps referred to, and supposed that Ossulstone survived in the neighbourhood as a field-name, the original landmark being in his opinion a Roman milestone at the Marble Arch. Documentary evidence for this view was given in *Proceedings*, xxiv, 140. It had been suggested in the paper that Paul's Cross represented a Saxon landmark of the pagan period, before St. Paul's was built. Before the erection of the city walls (presumably early in the fourth century) the locality had been a cemetery, over which at least one house was erected later. On the opposite side of the Watling Street, which crossed the north-east angle of the churchyard on its way from London Bridge to Newgate, Wren found a row of wells, probably belonging to Roman houses, under the north wall of the presbytery, exactly where Paul's Cross originally stood. If a Roman milestone had existed there, it might well have been used by the Saxons as a landmark, and perhaps Christianized later by the addition of a cross, as were some of the menhirs in Brittany. At the south-east angle of the churchyard originally stood Paul's stump, which might have been a milestone on the Roman or British road leading from Ludgate to Eastcheap (*Archaeologia*, lxviii, 234). The distance to London Stone would be just one third of a mile.

Mr. BAILDON disclaimed any theory of an early Christian monument on the site of the cross, but was ready to accept the suggestion that a Roman milestone formerly stood there. The Saxons had brought the folk-moot with them, and were so conservative that the place of meeting was likely to have remained the same for ages. A Roman milestone would have been a suitable landmark for the purpose. He had not described the

painting in his paper, as so much had already been printed on the subject. It had been brought out of storage at his request as an illustration of the cross in its later period. The earlier mentions of the cross referred to by Canon Westlake were not strictly in connexion with proclamations, and were therefore not germane to the present subject. As a court of judiciary the hundred court must at first have been held in the open, though it was known that churches and churchyards were often used for the purpose; and it was possible that the folk-moot met at York outside the cathedral.

Thanks were ordered to be returned for this communication.

THURSDAY, 16th MAY 1918.

Sir ARTHUR JOHN EVANS, Knt., D.Litt., F.R.S.,
President, in the Chair.

The following gifts were announced, and thanks for the same ordered to be returned to the donors:

From the Author :—Notices of an English branch of the Malet family.
By Arthur Malet. 4to. London, 1885.

From the Author :—The early maps of London. Part II. By William Martin, F.S.A. 8vo. London. n. d.

Notice was given of a ballot for the election of Fellows to be held on Thursday 6th June, and a list of the candidates to be put to the ballot was read.

WILLIAM PAGE, Esq., Vice-President, read a paper on 'The origins and forms of Hertfordshire towns and villages', which will be printed in *Archaeologia*.

The PRESIDENT expressed the meeting's gratitude for an enlightening paper. Hertfordshire was originally carved out of the East Saxon kingdom, and represented a break with the Roman and Celtic settlements. Except in the Chilterns, the county contained hardly any trace of continuous settlement since Early British times. Tacitus, as a Roman who had seen

nucleated settlements on the heights of Italy, was struck with the scattered nature of German forest settlements; but the Teutonic conquerors of Britain had before their arrival reached the nucleated stage, and so presented a contrast to the more Celtic regions of the kingdom. St. Albans was not, as some might suppose, a descendant of Verulamium, but an offshoot of the great monastery, the Saxon stronghold having turned into a medieval market-town.

The Rev. R. S. MYLNE said the Hertfordshire boundaries in the east represented either Domesday conditions or those of the twelfth century, and instanced the parishes of Great and Little Amwell. The parish of Little Amwell formerly included the liberty of the parish of St. John in Hertford, which ceased to exist in the reign of Henry VIII, and the present parish seemed to correspond exactly to the area of land on the hills where the burgesses of Hertford had grazing rights.

Mr. LEEDS recommended the Fellows to study the appendix on Saxon town-planning in Rev. H. E. Salter's *Cartulary of the Hospital of St. John the Baptist*, vol. ii, p. 483, issued by the Oxford Historical Society. There the growth of Oxford was dealt with as Mr. Page had dealt with the towns in Hertfordshire. The market was laid out on much the same lines, near the main cross-roads. There were no Roman traces in Oxford, and the city was a specimen of Saxon town-planning. He had noticed various shops and outhouses placed in front of certain buildings on the east side of the street running northwards, and mentioned in that connexion the Cross tavern where Shakespeare had stayed. The castle was a Norman addition, guarding a ford and Quaking bridge across the Thames. Saxon settlements could be distinguished in various parts of England, just as east and west of the Elbe the scattered Slav communities could be distinguished from the nucleated villages in North-west Germany and the hamlets of the Celtic area.

Mr. REGINALD SMITH inquired whether the name Hare Street, near Little Hornead, was a survival from the *here-street* of Saxon charters. There were several ancient settlements on opposite banks of a river which, above and below the modern town, served as a county boundary. Was it fair to assume that the original focus was in the county to which both portions of the town were at present assigned, while the bridge-head was planted in alien territory? It had been stated that nowhere in Herts. could continuous occupation be proved from Early British to modern times; but Welwyn only lacked Anglo-Saxon remains,

and Mr. Page, as Hon. Curator of the County Museum, might know of some recent discoveries to fill the gap. A Saxon burial had in any case come to light at Wheathampstead, about half-way between Welwyn and St. Albans; and more might be expected in the north-east of the county.

SIR MARTIN CONWAY observed that an agricultural population lived in isolated farms and had other places of meeting. Centres of population had shifted owing to pressure, there being various purposes for association. Thus in Roman Britain men came together for military and commercial reasons, hence their towns and villages were connected with the main roads; whereas the Teutonic invaders, whose chief interest was agriculture, preferred to live in small communities, the majority of which lay off the main roads. On the growth of trade, new roads were made to give relative accessibility to remote centres of commerce. On arriving at a town by the main road one was often obliged to traverse it by tortuous passages, owing to encroachments on the market-place by shops or other buildings: Ashford and Hitchin were cases in point. Villages formerly attracted by the high road were in modern times drawn to the railway. Scattered villages were being deserted in favour of larger communities with cinemas and other attractions.

MR. PAGE replied that the paper should be regarded merely as a preliminary study of what he had found to be a large subject. He had examined the ordnance maps of several counties, and felt that a committee might derive an enormous amount of archaeological and historical material by treating the whole series on similar lines. There were two or three places called Hare Street in Hertfordshire, and he thought the name indicated an ancient road, whether military or civil. With regard to boundary towns on rivers, the principal part of the town was in one county and the bridge-head became attached to the same county. There were, so far as he knew, no Saxon remains in Welwyn, and there was probably a break between the Roman and Norman occupations.

Thanks were ordered to be returned for this communication.

THURSDAY, 30th MAY 1918.

Sir ARTHUR JOHN EVANS, Knt., D.Litt., F.R.S.,
President, in the Chair.

The following gifts were announced, and thanks for the same ordered to be returned to the donors:

From the Author:—Gloucestershire fons. (a) Fifteenth century. By A. C. Fryer, Ph.D., F.S.A. 8vo. n. p., n. d.

From Rev. E. J. Taylor, F.S.A.:—The church of St. Cybi, Llangibby, Monmouthshire. By R. Addams-Williams. 8vo. Bristol, 1908.

From Mill Stephenson, Esq., B.A., F.S.A.:—A list of monumental brasses remaining in the county of Suffolk. By Rev. Edmund Farrer. 8vo. Norwich, 1903.

Notice was again given of the ballot for the election of Fellows, to be held on 6th June 1918, and the list of candidates to be put to the ballot was again read.

Professor WILLIAM GOWLAND, A.R.S.M., F.R.S., F.S.A., read a paper on Silver in Roman and Earlier Times; pt. i. Prehistoric and proto-historic times; which will be printed in *Archaeologia*.

Mr. SANDARS was not acquainted with any sites in the Baetis (Guadalquivir) valley where early man procured silver, but stated that with one or two exceptions the lead-mines of Southern Spain were not rich in silver, and cupelling was necessary to extract it from the galena. In the Sierra Almagrera, a mountain range running parallel to the coast at El Argar, the brothers Siret had found several tombs containing articles of silver, including the well-known diadems; and there was little doubt that the range was one of the sources of silver referred to in history and mythology. The ancient mines had been lost sight of, but were rediscovered by a shepherd some fifty years ago. The work had been resumed and some years ago the miners were paid in native silver. The finest known specimen of native silver had come from that site; and another good one, found in a different formation near M. Siret's home, was sent to the Pope, who had it converted into a pair of candlesticks. There was no actual record that silver mines on the east coast were worked before the advent of the Carthaginians.

Captain H. R. HALL had been specially interested in the flint knife with a silver handle, the design of which reminded him of sculptures of early Babylonian kings about 3500 B.C. Silver

was quite rare in Egypt during the eighth dynasty, gold being more common and of less account. At that time Asia Minor no doubt supplied silver to Egypt and Mesopotamia, and the Hittites must have been concerned in its production. Communication was then easier with the Euphrates area than with Egypt. After a long war between the Egyptians and Hittites the treaty of peace was ordered to be inscribed on tablets of silver. The silver bowls referred to in the paper could be traced back to the eighteenth Egyptian dynasty, and were a curious instance of conservatism, as they went down to about 600 B.C. A similar case was the production of glass in one style between 1800 and 500 B.C.

The PRESIDENT felt that the subject was in the hands of a master, whose knowledge of the methods and localities of production would be difficult to match. As the subject was such a large one, criticism of details would be out of place. Mesopotamia had been named as the earliest area for advanced productions in silver, and the Sumerians were shown to have been familiar with the metal in the fourth millennium before Christ. All ancient tradition and the very name of silver in Greek pointed to the south-east corner of the Pontic region as one of the earliest sources. Homer in the *Iliad*, ii. 857, spoke of 'Alybe, where is the birthplace of silver', and the suggestion had been made that the name of silver in European languages was derived from that place-name. It had been argued in the paper that the silver treasures at Troy were derived from the adjoining mountains: that might be the case, but evidence of workings there was required. There must have been an early route for silver along the south coast of the Black Sea to the Aegean, and Troy was a stronghold between the two. The early civilization of the Aegean was practically the same as that of Troy, and was early characterized by a considerable amount of silver, as witness the tombs of Amorgos dating from the Early Minoan III period, 2400-2200 B.C. He could not agree that the Laurium mines were exploited at a very early date. The civilization first seen at Mycenae was alien, and imported from Crete and the Aegean. Remains of Mycenaean walls and tombs would only prove the case if they were full of silver, but objects of that metal were very rare in that district; and at Delphi, for instance, polygonal walling was quite late. The absence of silver in the Cretan palace was accounted for by the theft or withdrawal of such treasures; and there was a great variety of vases made in imitation of metal work. It was at present impossible to name the local centres of silver exploitation. Olympus was possible;

the south coast of the Black Sea was indicated by tradition; and Armenia might have yielded the metal at a very early date.

Professor GOWLAND replied that many details had been omitted, as only an abstract of the paper was read. The Baetis valley was not insisted on, and one of the silver plates had been borrowed from Mr. Sandars's work. It was impossible to date old workings with any precision, unless flint or bronze implements were exclusively found. He agreed that the Taurus was an important region for silver, and had marked several other sites further north on his map. Polygonal walling was not infallible as evidence of a Mycenaean or other early occupation of Laurium. In Japan megalithic walls had been built during the last two or three centuries, and he had himself seen there, enclosed in a wall, a stone that must have weighed 230 tons. Fortunately a picture of its transport from the river was in existence, the method employed being precisely the same as that portrayed in Egyptian tombs.

Thanks were ordered to be returned for this communication.

THURSDAY, 6th JUNE 1918.

Lieut.-Colonel GEORGE BABINGTON CROFT LYONS,
Vice-President, in the Chair.

The following exhibitions were laid before the Society:

Two Roman copper cakes from North Wales, by W. J. Hemp, Esq., F.S.A.

Three seal matrices of bronze, by F. P. Barnard, Esq., F.S.A.

One leaf of an English ivory diptych of the fourteenth century, formerly used as a pax, by Dr. Philip Nelson, F.S.A.

An alabaster carving of the Adoration of the Kings, belonging to the late W. Crewdson, Esq., F.S.A.

A stone maul from Stonehenge, by the Rev. G. H. Engleheart, F.S.A.

Some medieval objects found at Peterborough, and an eighteenth-century tally, by S. G. Rudler, Esq.

A charter of Henry I to Great Malvern Priory, by C. L. Kingsford, Esq., F.S.A., on which he has contributed the following note:

This charter, which can be dated between 1121 and 1127 by the presence of Richard, bishop of Hereford, amongst the witnesses, is printed in Dugdale's *Monasticon Anglicanum*, iii, 447-8, from an *Inspeximus* in the Patent Rolls of 50 Edward III (1376-7). The Charter supplies a few corrections of the printed text:

Achiseia *for* Achiseiam.

Leccen et unam hidam *for* Lecten de unam hidam.

decimam de dominio Ricardi de terra in Estradel *for* decimam de domino Ricardo de terra de Estradel.

Mortuna *for* Martuna.

There are three endorsements on the Charter:

1. 'Vniuersalis Carta Henrici Regis senioris.' In a hand of the late twelfth century, or early thirteenth (before 1216).

2. 'Exhibit. per test. rei examinat.' In a hand of the fourteenth century. This should probably be expanded: 'Exhibita per testes rei examinatos.' It may refer to the *Inspeximus* of 1376-7.

3. 'Court Rolls. Temp. Hen. 8 & 1 GRANT.' Probably written about 1700. This seems to indicate that the Charter at that time formed part of the muniments of some manor.

The writing of the Charter closely resembles that of a Romsey Charter (Add. Ch. 33629 at the British Museum), of which a facsimile is given on plate III in *Charters in the British Museum*, vol. i. The Romsey Charter is dated 1120-30; the writing has the same curious curvature of the lines which appears in the Malvern Charter.

The Malvern Charter is now in the possession of Earl Beauchamp, to whom it was presented some years ago by a gentleman at Malvern now dead.

Thanks were ordered to be returned for these exhibitions.

This being an evening appointed for the election of Fellows no papers were read.

The ballot opened at 8.45 p.m. and closed at 9.30 p.m., when the following were declared duly elected Fellows of the Society:

Rev. Charles Robert Stebbing Elvin, M.A.

Rev. Canon John Fisher, B.D.

Charles John Holmes, Esq.

James Donald Milner, Esq.

Richard Hensleigh Walter, Esq., M.A.

Captain Geoffrey Reynolds Yonge Radcliffe.

Arthur Finn, Esq.

Samuel Perkins Pick, Esq.

THURSDAY, 13th JUNE 1918.

Sir ARTHUR JOHN EVANS, Knt., D.Litt., F.R.S.,
President, in the Chair.

REGINALD A. SMITH, Esq., F.S.A., read a paper on Specimens from the Layton Collection, exhibited by the Librarian of the Brentford Public Library.

Mr. Smith's paper will be printed in *Archaeologia*.

Sir HERCULES READ had come in contact with Mr. Layton forty years ago, and was amazed at the variety of collections found in the house at his death. The antiquities were mostly obtained from dredgers whom Mr. Layton subsidized, and so enjoyed for some time a monopoly of the finds a long way up and down the river from Kew where he lived. When the house became congested, no less than thirty sheds were built in the garden to contain the purchases, and the executors found difficulty in dealing with such an accumulation. He had himself been consulted as to the fate of the collection, which included a rich museum of national relics ranging from palaeolithic to Viking times. The paper had treated of specimens that had a special interest and in some cases artistic charm, such as Late Celtic finds seldom failed to exhibit. The bucket was devoid of decoration, but any metal work of that period could be relied on to show the highest craftsmanship. He had noticed, at the time of sketching the bucket, that the staves were kept in place by a series of lozenge plates made of hard wood and let into the edges, and some still remained in place. It was curious that objects retained their metallic character in the Thames and were prevented from rusting by a calcareous deposit or concretions of gravel. He was gratified to see put on the screen a plate from *Horae Ferales*, which showed that Sir Wollaston Franks's work of 1863 was not yet out of date.

Mr. GARRAWAY RICE had found the Curator at Brentford Library always willing to show the collection, but the hours of opening were rather irregular, and inquiry should be made by intending visitors. The exhibition was one to make private collectors envious, and he hoped to hear more of the exceptional Thames pick on the table. He had found in the paper much instruction and food for thought.

The PRESIDENT said the paper described one of the most interesting finds of British antiquities on record, and its effect on British archaeology would be considerable. He was glad to

think that the accumulations of a generation were at last to be rendered available for students. The Thames was to Britain what the Nile was to Egypt, and the exhibits came from its most fertile tract. Connexion was evident with Gaul and countries beyond the Alps as well as with Scandinavia; and the lines of communication all pointed to the Thames. Owing to that early traffic and to successive waves of conquest, Britain had reached a high state of civilization before the Roman invasion. Among the brooches was one imported from Italy in the fifth century *n.c.*, and as there was no reason to doubt its provenance other similar finds were so far confirmed. He agreed that the holes in the bow were for coral settings, but thought justice had hardly been done to the British coin, which belonged to an interesting class dating before the Roman conquest and derived from a type in the south of France, with the figure of a goat. The type was found from the extreme west of England to the Thames at Dorchester and down the river to the Kentish coast, thus showing a connexion between the west of England and the Continent. Copies of the Massiliote type were generally of tin, but the present specimen contained a certain amount of bronze. The tin trade did not depend on Phoenician craft, but came overland to the point nearest the Gaulish coast. Though there was a tendency to look to Switzerland for the origins of early British art, it should be noted that there was an important connexion with the Rhone valley and across France to the Pyrenees. It was a matter for congratulation that the collection had been rescued, cleaned, and arranged at Brentford, and thanks were due to the author and to Mr. Turner, the Librarian, for the exhibition provided that evening for the Society.

Mr. QUARRELL inquired whether the so-called axle-ends could ever have been used to ornament the ends of chariot-poles.

Mr. REGINALD SMITH replied that, though the bronze loops known as *terrets* were no doubt used in driving chariots, the fittings in question could hardly have belonged either to the pole or the axle, as the peg through the middle was very slender, whereas the casting was heavy and needed a strong attachment. They were evidently meant to be near the eye, and if fixed to the axles of chariots would have interfered with the scythes supposed by some to have occupied that position. He briefly described the Thames pick and hipposandal accidentally omitted in reading the paper, and remarked that any doubts as to the use of the latter were set at rest by the discovery of four on the feet of a horse's skeleton in Canton Valais, Switzerland.

Thanks were ordered to be returned for this communication.

THURSDAY, 20th JUNE 1918.

WILLIAM PAGE, Esq., Vice-President, in the Chair.

The following gifts were announced, and thanks for the same ordered to be returned to the donors :

From the Trustees of the British Museum :—

1. Greek Papyri in the British Museum. Vol. v. 1917.
2. Catalogue of Japanese and Chinese woodcuts in the British Museum. By Laurence Binyon. 1916.
3. The collection of ancient Greek inscriptions in the British Museum. Part IV. Section ii. 1916.
4. Catalogue of English coins in the British Museum. The Norman kings. 2 vols. By G. C. Brooke. 1916.

From the Author :—Ancient roads and bridges with special reference to Herefordshire. By G. H. Jack, F.S.A. 8vo. Hereford, 1917.

From the Author :—Comparative archaeology : its aims and methods. By Robert Munro, M.D., LL.D., F.S.A.Scot. 8vo. n. p. 1917.

The following were admitted Fellows :

Charles John Holmes, Esq.

James Donald Milner, Esq.

Captain Geoffrey Reynolds Yonge Radcliffe.

Sir HERCULES READ, F.S.A., on behalf of SEYMOUR LUCAS, Esq., R.A., F.S.A., exhibited a two-handed sword from Norfolk, on which he made the following remarks :

My friend, Mr. Seymour Lucas, has asked me to say a few words in description of the very interesting sword he shows to-night, though I am no specialist in arms, and I fear that my description may not be very adequate.

It is, apparently, a two-handed sword, its total length being 61 in. ; of this the hilt takes up $18\frac{1}{2}$ in., and is merely a tang passing through the quillons and eventually through the pommel, and thus a continuation of the same piece of metal that forms the blade. The quillons are formed of a rounded bar curving away from the hilt, and each end terminates in a ribbed knob. The grip is oblong in section and now bare of any wrapping. The pommel is of an octagonal fig shape, and, as is sometimes the case at this period, seems unduly small for the weapon. The blade is of a simple form, $2\frac{1}{8}$ in. wide at the hilt and diminishing gradually to the point; the two faces are simply rounded and have neither channel nor rib down the middle.

The story of the sword is that it was 'found in the stables of Walsingham Abbey' (Priory) in Norfolk, but, beyond

introducing a picturesque element into its history, this does not help us much. It renders it more probable, which is doubtless the case, that the sword is of English origin. There is nothing about it, to my eyes, that might not be of English make. The slide I show has two swords from the British Museum that appear to be of the same make and of nearly the same date. They have pommels of similar type, and the proportions of the hilt and of the swords generally resemble those of Mr. Lucas's specimen. On the other hand, I have carefully examined the plates of the Zschille collection of arms, the majority of which are undoubtedly of continental make, and I find none that has the same characters.

There is one question of interest in connexion with this sword, and that is whether it is intended for use as a weapon, or whether it is a ceremonial or state sword. My first impression was in favour of the latter, partly from the plain make of the blade and partly because in handling the sword it seemed impossible in balance as a fighting weapon. In the latter respect, however, it would seem that all two-handed swords are apt to be impractical, inasmuch as recovery after delivering a blow must always be a matter of some difficulty. It is worthy of note that the state sword of the borough of Newcastle has quillons of the same form as Mr. Lucas's sword, and the blade appears to be of the same plain character. Further, that the civic swords at Hull and Chester have the same general appearance, though the pommels differ. It may very well be, all the same, that the similarity among these is due as much to similarity in date as in function, for as I have already pointed out, Mr. Lucas's weapon is nearly as much like the two swords in the British Museum, which are actual fighting weapons without doubt, as it is to these civic insignia. So we are thrown back again on the weapon itself for a decision, and I am inclined to think that we have to do rather with a ceremonial or funeral weapon than with one intended for warfare. It is very possible that it may have been part of a trophy of arms to be placed over a tomb some time about the beginning of the sixteenth century.

Mr. FFOULKES described the exhibit as an impractical weapon which would have led to fighting in extended order and to a decline in discipline. After the blow it would be difficult to recover and guard, but the weapon was probably ceremonial, if indeed it was genuine. Pratt produced a great deal of spurious medieval arms and armour, which had been treated seriously by Hewitt and Planché. The pommel was a better feature and might have been added to help out the blade and hilt. It

belonged to the class of two-handed swords, the hand-and-a-half sword being wielded with one hand on the grip, supported by two fingers of the other on the guard.

Sir WILLIAM HOPE had handled all the ceremonial swords in England, and secured the exhibition of most to the Society. Southampton had a two-handed sword, which did not, however, make the present specimen more likely. There were two somewhat like it at Windsor Castle and behind the altar at Westminster, both associated with Edward III; and there was little doubt that the former originally hung over his stall in the old chapel of the Garter, being afterwards kept in the vestry as the sword of the founder. The state sword at York was a beautiful example of the fifteenth century, offered up when the Emperor Sigismund was made a Knight of the Garter. The exhibit might have been a property sword that had strayed from the chapel on the death of a knight; but he saw no reason for connecting it with the priory of Walsingham. State swords of corporations were very handsomely fitted with silver and gold, and had good scabbards.

Col. CROFT LYONS thought the sword might have been included in the sale at Walsingham Abbey some years ago, where he had seen many objects that aroused his suspicions.

Sir HERCULES READ was familiar with Pratt's work, and saw no resemblance in the present specimen. Sir William Hope had emphasized the hint that the sword was not a fighting weapon, but had a representative character. To that might be due the poverty of design, which, however, did not prove it of modern origin.

The CHAIRMAN said all seemed agreed that the weapon was for ceremonial purposes, and the Society was indebted to Mr. Seymour Lucas and Sir Hercules Read for an opportunity of discussing it.

MILL STEPHENSON, Esq., F.S.A., and RALPH GRIFFIN, Esq., F.S.A., contributed a paper on a Roll of Arms belonging to the Society, c. 1540, which will be printed in *Archaeologia*.

This roll was presented to the Society by Mr. John Bilson, F.S.A., as mentioned in *Proceedings* xx, 173, where it is not quite accurately described. The roll was exhibited at the exhibition of British Heraldic Art at the Burlington Fine Arts Club, 1916, being no. 12 in case A, described not quite accurately on p. 7 of the catalogue. Probable date of the roll

1540. It is on vellum on five skins, united length nearly 12 ft., width $11\frac{1}{2}$ in. It is emblazoned on both sides with shields of arms in rows of five each, 49 on front and 35 on back. In all there are 420 shields, one being blank. The roll has at some time been mutilated, two rows of shields being cut off from the front and as many probably from the back. There are no arms of temporal peers. There are twenty-one of Bishops and Abbots and five of foreigners. The rest are country gentlemen and merchants. Many City of London merchants appear, including eight mayors.

The CHAIRMAN emphasized the value of Mr. John Bilson's gift to the Society, and commented on the surprising industry of Le Neve, whose manuscripts were distributed among the Heralds' College, the British Museum, and the Record Office. All acquainted with the Letters and Papers of Henry VIII would recognize many of the names on the roll, for instance Cavalcante, who was frequently mentioned with regard to Henry's financial affairs. He did not think the title Lord Mayor of London was in use till the seventeenth century. The three eagles seen on the coat of Abbot Ramridge of St. Albans first occurred on the shield of Abbot Delaniare, elected 1349, and were adopted by subsequent abbots, who looked upon his tenure of office as a period of prosperity in the history of the Abbey.

Sir WILLIAM HOPE congratulated the authors and the Society on the great industry displayed in the paper, and remarked on the comparatively large number of shields with borders and charges in chief. By daylight the frequent use of green would be at once noticed; and it was satisfactory to identify so many arms of abbots, which were too often elusive. Purple was a still rarer colour, and the absence of orange had been accounted for by the difficulty in procuring the pigment. The shield with a ground of quatrefoils could be described in two ways, and he preferred to regard it as a blue grate on a silver field. Charges of flowers often gave trouble, but there were two popular species, the columbine and gilly-flower, the latter being generally identified with the clove-pink, but the wall-flower also went by that name. The *Souvenez de moi* of Henry IV suggested the forget-me-not, but was in reality another flower. On the gatehouse of St. John's College, Cambridge, were two groups of flowers, called marguerites (in honour of the Foundress) and sofanies, probably the wild hellebore, the name being found in an inventory of the Lady Margaret herself. The shoveller duck appeared as a charge on the roll, but the birds borne by Bishop Lacy of Exeter were not shovellers but pochards.

Prof. OMAN thought the roll could not date after 1538, when it would have been almost treasonable to include the mitred abbot of Reading in a roll of arms.

Mr. STEPHENSON replied that the arms of Bishop Bell of Worcester were also included, and the attribution in a contemporary hand was appended in 1539, a fact that confirmed the suggested date of about 1540.

Captain LYON THOMSON had been struck, as a layman, with the resemblance of many of the coats to the work of the late Sir Albert Woods. The arms were probably granted for a small fee, and the dignity of the roll enhanced by the inclusion of a few distinguished coats. Complicated and inferior heraldry was not necessarily of modern origin.

Mr. GRIFFIN exhibited, in connexion with shield no. 414 on the roll, showing Argent crusilly patty fitchy, three greyhounds courant sable, collared or, and assigned to Smyth, Henry VII, the panel of stained glass from the Society's collection, illustrated *Proceedings*, vol. xxix, p. 204, and made the following observation. An exactly similar panel is now in a window above the south door of the vicarage of Keresley, having been placed there by a late vicar to whom the panel was presented by Mr. Phillips, a local collector of curiosities. Both panels were probably from the Smyth mansion at Shirford or Shelford in an adjoining parish. The window in the vicarage was fully described by Mr. G. W. Campbell with an illustration in a supplement to the monthly parish magazine for October 1910.

John Smyth, an attorney and wealthy citizen of Coventry *temp.* Henry VII, living in Spon Street in that city and holding public offices of note therein, purchased lands of good value in his lifetime, mainly in Warwickshire. His son Henry Smyth was a citizen of Coventry in the time of Henry VII. He was a benefactor to a guild there and was in the commission of the peace in 17 Henry VII. He purchased an estate in the parish of Burton Hastings, near Nuneaton, known as Shirford Manor, now known as Shelford. He married Jane, third daughter and coheir of Walter Graunt of Snitterfield, co. Warwick. No pedigree has been found of these Graunts. Baker in his history of Northamptonshire, vol. i, p. 109, makes Walter Graunt the husband of an unnamed daughter and heir of Hugh Ruding of the Wicke, Worcestershire. There are conflicting accounts of this match and the various difficulties are set out at p. 217 of vol. 66 of the *Gentleman's Magazine*. Be that as it may the Graunt whose daughter Henry Smyth married differenced his

arms with a crescent argent, as is seen by the stained glass shown, and this is important as this lady had three sisters who transmitted these same arms to various families including the Spencers of Althorp, for the Sir John Spencer of Snitterfield, Warwickshire, who bought Althorp, whose real arms were azure, a fess ermine between six seamews' heads erased argent, married Isabel, sister of the Jane Graunt who married Henry Smith, who herself was widow of John Spencer of Hodnell, Warwickshire. This John Spencer died about 1496 and Henry Smyth probably married her very soon after that date, as his son by her, Walter, was regarded as an old man in 1554 when he was murdered. The arms in the dexter half of the shield in stained glass are quarterly:—

1 and 4. Argent, crusily fitchy and three greyhounds courant sable, collared or.

2. Ermine, on a chevron gules five bezants, and in chief a crescent argent for difference [Graunt].

3. Argent, on a bend between two lions rampant sable, langued or, a wyvern extended argent, langued or [Ruding of Worcester-shire].

Walter Smyth, who succeeded his father at Shirford and was afterwards knighted, was ancestor of the Smyths of Crabbet Park, Sussex. Sir Walter is said in the manuscript pedigrees to have married a daughter of Ferrers of Tamworth castle, and as the sinister half is in fact Ferrers of Tamworth castle the inference is that the shield on the panel is that of Sir Walter Smyth and his first wife. Some of the quarters of Ferrers are mutilated in the Society's panel but they can be identified from that at Keresley.

1. Vairy or & gu. (Ferrers).

2. Gules, seven mascles conjoined 3, 3, and 1 or (Ferrers of Groby).

3. Gules, a cinquefoil ermine (Bellomont).

4. Or, a cross flory gules (Freville).

5. Or, a saltire engrailed sable (Botefourt).

6. Vair, a fess gules (Marmion).

7. Or, four bends azure (Montfort).

8. Argent, a fess cotised sable, in chief three pellets (Langley).

One of the daughters of Henry Smyth, a sister of Sir Walter, and whose name was Joan or Jane, was wife of John Onley, gent., under-sheriff of London, who died in 1537. She predeceased him, dying in 1525, and being buried at Hackney where her brass no longer exists. It bore the arms of Smyth quartering Graunt and Ruding as in the stained glass. See *Trans. Mon. Brass Soc.*, v, p. 65.

It has been mentioned above that Sir Walter was murdered. The whole story of this and of the way his son lost Shirford is given in Dugdale's *Warwickshire* s.v. Shirford, vol. i, p. 55. Shortly, the story is that Sir Walter, wishing to make a suitable match for his son, was minded to marry him to Dorothy, daughter of Thomas Chetwyn of Ingestre, Staffordshire. Unfortunately on seeing the lady Sir Walter fell in love with her himself and took her for his second wife. The lady wearied of her old husband and was attracted by another younger man, so with the help of a groom suffocated her husband on the 15th May, 1554.

Some two years after the groom confessed and with his mistress suffered the penalty of the law for the murder, she being burned at the stake near the Hermitage on Wolvey Heath close to Shirford.

Thanks are due to our Fellow, Mr. T. A. C. Attwood of Kidderminster, for assistance in tracing the coat shown in the stained glass.

Thanks were ordered to be returned for these communications.

THURSDAY, 27th June 1918.

WILLIAM PAGE, Esq., Vice-President, in the Chair.

Arthur Finn, Esq., and the Rev. Charles Robert Stebbing Elvin were admitted Fellows.

Captain J. E. ACLAND, F.S.A., a Local Secretary for Dorset, submitted the following Report:

In my last report (*Proceedings*, vol. xxviii, p. 201) I had the honour to inform you, that, as a result of military work in the German Prisoners of War Camp at Dorchester, the site of an ancient burial-ground had been discovered, probably of the late Roman period. Owing to the continued occupation of the camp, it has not been possible to undertake any investigation of the site. At the present time I have nothing of equal interest to report, but a careful watch is being maintained for discoveries which are likely to occur owing to the constant disturbance of the soil due to the construction of camps, and

in the making of military roads, trenches, drains, and reservoirs.

This has been rendered possible by the cordial co-operation of the authorities of the Southern Command, due to the initiative of the Rev. G. H. Engleheart, Local Secretary for the adjoining County, Wilts., and with the assistance of the Curator of the Museum at Salisbury, to both of whom our thanks will be due for any satisfactory results that may be obtained. As the 'Southern Command' embraces both Wilts. and Dorset, it has been found advisable (to save complications) to arrange with the military authorities that all discoveries in either county shall be reported in the first place to Mr. Engleheart, who, with great courtesy and with a just appreciation of our respective 'territories', passes on at once to me such reports as emanate from Dorset.

During this year (1917) three discoveries of ancient burials have reached me in this way; but, owing to restrictions on travelling both by rail and road, and as a result of the extreme exigency of all military work, I have not been able to reach the sites previous to the removal or disturbance of the remains, and have had to be content with the descriptions given me by the officer announcing the discovery or by friends living close by. I must also draw attention to the fact that I have altogether failed to obtain information of the discovery of any associated objects, although in the orders issued by the Southern Command special reference is made to pottery and stone or metal objects. If therefore there have been failures or irregularities in this respect, the blame must rest on the individual excavator; and it is well known how easily a workman can either overlook, or take possession of and conceal, such small relics as might be of the greatest importance to the antiquary.

The orders to which I have referred are in the following terms:

Antiquarian Relics. All articles of historical and antiquarian value, such as skulls, pottery, trinkets, &c., which are discovered from time to time during the digging of trenches, and in excavations on Salisbury Plain and on other parts of the Command, are national property and may on no account be retained by the finders.

About a fortnight later a further order was issued:

In the digging of trenches on Salisbury Plain, objects of considerable historical value have been brought to the surface. The Society of Antiquaries have requested that in the event of pottery, stone or metal weapons, bones of human remains, or evidences of burial-places being brought to light in this manner, such relics may be carefully preserved, and notice sent to the local Secretary of the Society, the Rev. G. H. Engleheart, F.S.A., Clarendon, Dinton, Salisbury. The Society hopes that excavations in mounds or barrows, which are obviously ancient burial-places, may be avoided as far as possible.

As a result of these orders, I received information in March 1917 from the officer commanding the Royal Navy Reserves Camp at Blandford that 'some remains of a human skull and bones had been discovered', that they 'were of no value historical or otherwise', 'and that they were being re-interred in an isolated spot where they were never likely to be disturbed.' He added that in previous excavations in the trenches any human remains discovered had been dealt with in the same manner.

Later in the year, in July, I received a letter from the Royal Engineers Training Depôt at Blandford informing me that a number of human bones had been found when digging trenches, some of which were in the writer's possession. He said, 'It appears that a shallow sort of basin had been cut out of the chalk for interment purposes, but there is no sign of a tumulus at the spot.'

The third discovery of human remains was brought to my notice by Mr. Engleheart in June 1917. There is a large camp at Swanage, lying at the foot of Ballard Down, and, while the Royal Engineers were engaged in excavating for the construction of a waterpipe for the camp, they struck an interment consisting of slabs of stone placed on edge surrounding the body, and the remains of another burial close by but not enclosed by stones. The District Officer R.E. kindly marked the site for me on the 6 in. Ord. Map, showing it about 100 yds. north of Ballard Cliff, and near a barrow.¹

Three very similar interments have been recorded in the same neighbourhood. In the year 1908 a grave was found at Worbarrow, near Tyneham, consisting of slabs of Kimmeridge shale placed on edge, forming an enclosure which contained the skeleton. No objects were discovered in association with the human remains, but some of the slabs are in the Dorset County Museum.

In the same year, 1908, a similar burial was uncovered at Blashenwell, near Corfe Castle. Judging from photographs of the site, and a careful description in my possession, the grave consisted of thin slabs of stone built roughly into a box-shape just large enough to contain the skeleton.

At the same spot, Mr. Clement Reid in 1894 had found an interment of almost the same character, and this he assigned to a period 'considerably older than Roman, probably Neolithic' (*Proc. Dorset Field Club*, vol. xvii).

Taking these instances into account, all of them apparently constructed on the same principle, we may assume that the

¹ There is a considerable number of barrows in this district. 'Nine Barrow' Down is close by.

interment now discovered on Ballard Down is of the same period, Neolithic; and I can but regret that it has been impossible to investigate with the necessary detail the burial-places brought to light by military occupation of the county. A record of the sites may, however, be of use hereafter.

GEORGE MACDONALD, Esq., C.B., LL.D., F.B.A., a Local Secretary for Scotland, submitted the following Report:

In Scotland, as elsewhere, systematic excavation has been brought to a complete standstill. Nevertheless, one or two chance discoveries have to be recorded. A sculptured slab, which has been built into a garden-wall at Colinton for more than a hundred years, has recently been examined by expert eyes. It was popularly supposed to be an ecclesiastical relic and to represent the Holy Trinity. It has now been recognized as Roman and as a dedication to the Mother Goddesses. It is of unusually good workmanship, and is specially interesting as being the first thing of the kind to be noted north of the Tweed. Perhaps it was brought to Colinton from the fort at Cramond, four or five miles away. On the site of the camp at Inchtuthil, in Perthshire, a fresh set of Roman remains—possibly another bath—has come to light, where old grass-land was being broken up for tillage. The spot has been carefully marked for examination when times are more propitious. Here and there allotment holders have doubtless turned up Roman coins. But the only one that has come under my own notice is a Hadrian, secured the other day at Bonnyrig, Midlothian. It was a 'large brass' with a fine patina.

E. C. R. ARMSTRONG, Esq., Local Secretary for Ireland, communicated the following note on some gold, bronze, and amber ornaments found together near Banagher, King's County.

An interesting find of associated antiquities was acquired in April 1918 by the Royal Irish Academy under the treasure-trove regulations.

The find contained the following objects: a gold fibula with cup-shaped ends, a gold bracelet, two bronze rings, and one hundred and twenty-four amber beads.

The fibula (fig. 1, 1) belongs to a type often found in Ireland, and weighs 2 oz. 5 dwt. 10 gr.; the bracelet (fig. 1, 2) is made from a plain gold rod, with flattened cup-shaped ends, and weighs 12 dwt. 3½ gr.; the bronze rings (fig. 1, 3 and 4) are unornamented, and measure respectively 3⅞ and 3⅝ in., being probably armlets; the amber beads (fig. 1, 5) vary in colour, their condition being surprisingly good; all the objects of the find are shown one-third natural size in fig. 1.

They were discovered some years ago near Banagher, King's County, being obtained later by Mr. Edward Morrison, of Birr,

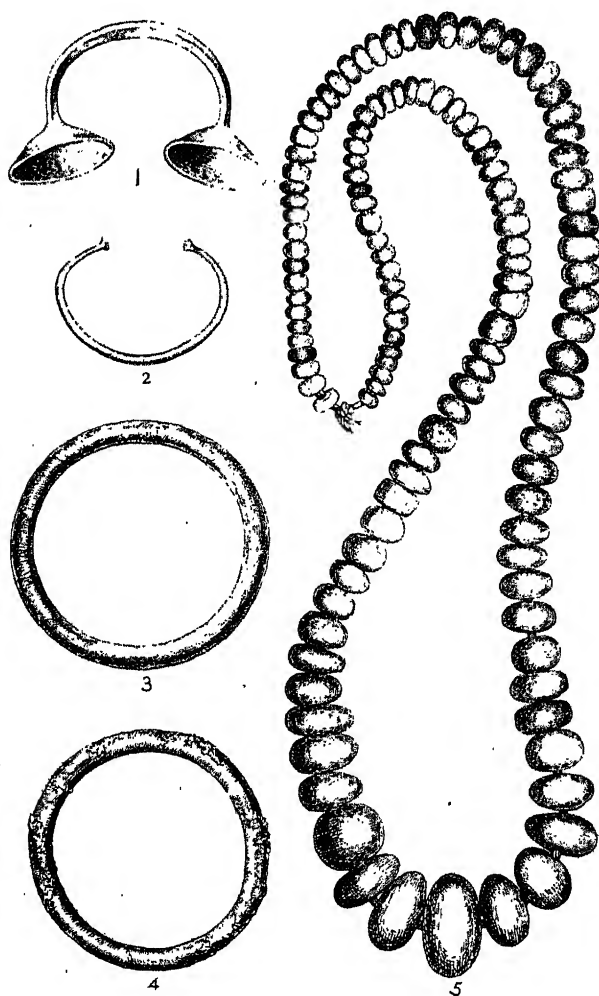


Fig. 1. GOLD, BRONZE, AND AMBER ORNAMENTS FROM BANAGHER, KING'S CO. ($\frac{1}{2}$).

from whose possession they passed into that of the Academy. Replying to a query of mine, Mr. Edward Morrison wrote on 30th April 1918: 'The two golden fibulae, the amber necklace, and the bronze objects which were purchased by the Royal Irish

Academy of me, were all found together in a field (not a bog) about one and a half miles from the Shannon at Banagher, on the King's Co. side of the river'. This account establishes the association of the objects; the apparent absence of human remains indicates that they had been hidden, not deposited as grave furniture.

The association of amber beads with ornaments of gold and bronze is interesting: until the present discovery the best attested Irish case of such association was a find made at Mount-rivers, Rylane, Coachford, Co. Cork, where in May 1907 two men, who were making a fence, discovered two gold fibulae, two bronze socketed axes, a bronze fibula, and a number of amber beads. This find was acquired by the Royal Irish Academy and has been described and illustrated in their *Proceedings*,¹ where, in the same paper, other finds also containing amber, the evidence about which is of a less satisfactory character, are mentioned. The amber, in all these cases, was probably imported from Jutland; possibly it was traded for Irish gold; for gold lunulac, either exported from Ireland, or copied from Irish models, have been found in Denmark² and in Germany.³

The ornaments comprised in the Banagher find can be dated by the fibula and bracelet; both according to Dr. O. Montelius⁴ belong to his fifth period of the Bronze Age which he dates as extending from the middle of the twelfth to the end of the ninth century B.C. But I should not be inclined to consider the ornaments in question so early; I think they belong to the latest period of the Irish Bronze Age, dating probably about the fifth century B.C.

In conclusion, I should like to add that this find was sent to England, and that its recovery for the Irish National Collection is due to the good offices of our former President, Sir C. H. Read.

Lieut.-Colonel CROFT LYONS, Vice-President, on behalf of J. E. COUCHMAN, Esq., F.S.A., exhibited and described a fourteenth-century ivory carving of our Lady and Child, and a copper plate, formerly enamelled, of the Crucifixion, as follows.

The leaf of the diptych exhibited this evening is enclosed in a frame, so that it is difficult to measure it accurately, but it is safe to say that it is about $4\frac{1}{2}$ in. high by $3\frac{1}{4}$ wide. It is stated to have been found in the ruins of Hastings Castle. All traces of the colour with which it was probably originally covered have long since disappeared, and from its present bleached appearance

¹ Coffey, *Proceedings Royal Irish Academy*, xxx, Sec. C, pp. 85-7.

² Montelius, *Die Chronologie der ältesten Bronzezeit*, pp. 78, 79.

³ Hahne, *Mannus*, iv, pp. 70, 71.

⁴ *Archaeologia*, lxi, pl. xviii, and p. 162.

it would seem to have been subjected to a merciless scouring, possibly when the fracture which runs across the background was repaired. It was given by that well-known antiquary Captain Grose to Sir Charles M. Burrell, and by him to the 2nd Earl of Chichester; whose successor the 4th Earl presented it to the Sussex Archaeological Society in 1886. It is now exhibited by the Society through our Fellow, Mr. J. E. Couchman. It is of ivory carved in an admirably free yet masterly manner, and may be assigned to the middle of the fourteenth century.

The group consists of ten figures beneath a canopy, and represents the Coronation of the Blessed Virgin. The arrangement is unusual, as the mother of our Lord, instead of being seated on a throne at the right hand of God the Father, is represented as ascending to heaven in a mandorla of clouds supported on either side by an angel. A third angel issuing from clouds holds a crown above her head, while higher still a fourth angel, also issuing from clouds, swings a thurible with his right hand and holds an incense-boat in his left.

God the Father, seated on the right of a long throne, the left half of which is vacant and covered with drapery, extends his right hand in the act of benediction while his left rests on the arm of the throne. He wears a tunic over which is an ample cloak fastened by a diamond-shaped morse, and has a crown on his head.

The lower part of the group represents the heavenly choir and consists of four angels with musical instruments, one to the left and three on the right of the Blessed Virgin. The one on the left plays the psaltery, the first on the right the tabors, the second draws a bow across a viol, and the third has a portable organ; all turn their heads to gaze on the Mother of God as she ascends to heaven to the seat reserved for her on the right hand of the Almighty Father.

An elaborate canopy surmounts the group, and the whole forms a most attractive composition.

The plate of copper, $8\frac{3}{4}$ in. long and $4\frac{1}{4}$ in. in width, was dug up in the churchyard at Rottingdean, *circa* 1770. It is thirteenth-century work and bears a representation of the Crucifixion. Possibly it formed part of the cover of a book of the Gospels or it may have been the side of a reliquary, but in its present detached state it is difficult to be positive as to its original use.

It has evidently served more purposes than one as there are numerous rivet-holes, and a rectangular one some half-inch long at the top which may have been a keyhole, or for some staple or other fastening to pass through.

In the centre is the outline of a Crucifixion, the figure of our Lord having been in relief and separately applied. This is

surmounted by the Titulus, over which is the Dove descending within a nimbus. At the foot of the Cross is a half figure emerging from what looks like an open grave, while on either side stand the Blessed Virgin and St. John. Above these are two half figures of angels resting on arches. Very little of the enamel and scarcely any of the engraving remains, but small traces of coloured enamel may still be seen surrounding the head of our Lady, St. John, and the two angels, the heads being in relief and formed of separate pieces of metal fixed with rivets. The whole has suffered so much from rough usage that most of the detail is worn away and cannot accurately be described.

Like the ivory diptych this interesting object is exhibited by the Sussex Archaeological Society through our Fellow, Mr. J. E. Couchman, and our thanks are due to them for so kindly allowing us to see what I am sure has interested you, and to Mr. Couchman for introducing them to us.

HENRY BALFOUR, Esq., F.S.A., read a paper on Palaeolithic Culture in South Africa, with special reference to the Zambesi district, which will be printed in *Archaeologia*.

Sir HERCULES READ congratulated the author on his extremely lucid handling of a difficult subject. The slides themselves had given the meeting an excellent idea of the magnitude and history of the Zambesi: its ancient bed was broad and shallow, and, though in the rainy season full of water, would at some periods have accommodated the inhabitants who made and left there so many stone implements. Their age depended on the ultimate verdict of geologists; and their exhibition raised a fundamental question. The resemblance of the specimens, especially the Levallois flakes, to well-known types in Europe was obvious, but the author had been careful to speak of Chelles and St. Acheul *types* without committing himself further. It would be rash to synchronize the two series, but it was a remarkable fact that the peculiarities of the various types were exactly reproduced at the end of another continent. If they were not of different dates it was strange that the types were found so far apart. Another mystery was the extraordinary natural polish seen on many of the specimens. He deprecated any idea of an addition to, or deposit on, the stone, and preferred to explain it by long continued action of water charged with very fine soil. That and the cognate subject of patination should be taken up microscopically by an expert chemist.

Mr. DALE was disappointed to find that the gravel beds of the Zambesi were so thin, and noted that the author had correlated them with the terrace-gravels of Britain. Since the beds

were laid down the cañon had been cut to a depth of 400 ft. out of solid basalt, and that had an important bearing on the chronology. By way of comparison he referred to the Colorado cañons as described to the British Association at Dublin in 1908. There was still the question whether the gorge had been cut since the implements got into the gravel. Savernake produced a similar series of glossy implements, though the surface was not quite so glossy as some on the table. He was in favour of a deposit of free silica in both cases.

Mr. REGINALD SMITH agreed with much that had been said, and pointed out that Mr. Balfour had not only added to the few cases in which implements of palaeolithic type had been found in South African gravels, but had furnished an intermediate link in the chain of Levallois (or Northfleet) specimens extending from the Thames to Cape Colony, by way of the Somme, the Nile, Somaliland, the Vaal river, and Victoria West, the last find being as yet unpublished. The burning question was whether the South African specimens were palaeolithic in the European sense; and he was inclined to attribute similar finds in both continents, in a wide sense, to the same culture and the same period. The identity of the forms had been insisted on, but still more convincing was the identity of sequence in areas so distant from one another. The same needs might prompt isolated groups to produce the same forms out of similar material, but they could hardly be expected to develop and transform these productions precisely on the same lines. The Society was fortunate in having brought before it a paper of such scientific importance.

Mr. BALFOUR replied that he could not venture to attribute the gravels to the Zambesi; but if geologists agreed on that point the antiquity of at least some of the implements must be enormous. There was no evidence that they were made by the Bushmen, the most ancient people known in South Africa, though that race might have found and used a certain number. His own impression was that there had been a chain of culture between Europe and South Africa, indeed it was almost impossible to think otherwise; and though final proof was wanting the evidence was accumulating. Migration might have been slow, and the south therefore behindhand; but the European forms were found in several parts of South Africa and no dominant type was unrepresented there.

Thanks were ordered to be returned for these exhibitions and communications.

The ordinary meetings of the Society were adjourned until Thursday 21st November.

ACCESSIONS TO THE LIBRARY

FOR THE PERIOD JULY 1, 1917, TO JUNE 30, 1918.

The following list of accessions is arranged under subjects.
A topographical list of those books which can be so catalogued is added :

ARCHAEOLOGY.

Munro, R. Comparative archaeology : its aims and methods.

ARCHITECTURE.

Anglès, A. L'abbaye de Moissac.

Aubert, M. Senlis.

Bégule, L. La cathédrale de Lyon.

——— L'abbaye de Fontenoy.

Besnard, C. H. Le Mont St Michel.

Boinet, A. La cathédrale de Bourges.

Bond, F. Westminster Abbey.

Dalton, J. N. The collegiate church of Ottery St. Mary.

Demaison, L. La cathédrale de Reims.

Dimier, L. L'Hôtel des Invalides.

Fage, R. La cathédrale de Limoges.

Fleury, G. La cathédrale du Mans.

Fossa, F. de. Le château de Vincennes.

Guerlin, H. Le château de Chambord.

Hope, Sir W. H. St. J. The new building of Wyberton Church, Lincs.

Houghton, F. T. S. The low side windows of Worcestershire churches.

Jenkinson, W. London churches before the great fire.

Lecureux, L. T. Saint-Pol-de-Léon.

Lefèvre-Pontalis, E. Le château de Coucy.

Loisel, A. La cathédrale de Rouen.

Longnon, H. Le château de Rambouillet.

Merlet, R. La cathédrale de Chartres.

Nodet, V. L'église de Brou.

Porée, C. L'abbaye de Vézelay.

Ranquet, H. du. La cathédrale de Clermont-Ferrand.

Roux, A. Le château d'Anet.

Stein, H. Les architectes des cathédrales gothiques.

Survey of London : Eastbury Manor House, Barking.

Tout, T. F. Medieval town-planning.

ARMS AND ARMOUR.

ffoulkes, C. J. Inventory and survey of the armouries of the Tower of London.

ART.

Davenport, C., and Butterfield, W. R. Catalogue of an exhibition of European peasant art held at Hastings Museum.

Goulding, R. W. The Welbeck Abbey miniatures.

Lindbloom, A. La peinture gothique en Suède et en Norvège.

Oates, F. A. H., Catalogue of finger-rings.

See also : Heraldry, Plate, Printing, Sculpture, Seals, Woodwork.

BELLS.

Cheetham, F. H. The church bells of Lancashire : iii.

BIBLIOGRAPHY.

British Museum. Subject Index of modern works added to the Library, 1911-15.

Levis, H. C. A descriptive bibliography of books relating to the art and history of engraving and collecting of prints.

Murray, D. Bibliography : its scope and methods.

BIOGRAPHY.

Levis, H. C. Nicholaus Claudius Fabricius, lord of Peirese, called Peirescius.

BRIDGES.

Jack, G. H. Ancient roads and bridges with special reference to Herefordshire.

CASTLES, FORTIFICATIONS, &c.

Fossa, F. de. Le château de Vincennes.

Guerlin, H. Le château de Chambord.

Lefèvre-Pontalis, E. Le château de Coucy.

Longnon, H. Le château de Rambouillet.

Poyser, A., and Fulleylove, J. The Tower of London.

Roux, A. Le château d'Anet.

Sumner, H. The ancient earthworks of the New Forest.

Vauban, S. de. Les forces de l'Europe: ou description des principales villes avec leurs fortifications.

CERAMICS.

Chase, G. H. A guide to the Loeb collection of Arretine pottery in the Fogg Museum.

Curle, J. Terra sigillata : some typical decorated bowls.

May, T., and Hope, L. E. Catalogue of Roman pottery in the Museum of Tullie House, Carlisle.

Villefosse, H. de. Une inscription peinte sur un vase romain découvert à Beauvais.

COINS AND MEDALS.

Barnard, F. P. The casting counter and the counting board.

British Museum. Catalogue of Coins and Medals: the Norman Kings.

Dale, W. London Tokens.

Gardner, P. A history of ancient coinage.

CORONATIONS.

Banks, T. C. An historical account of the ancient and modern forms . . . of the coronation of the kings of England.

Coussergues, C. de. Du sacre des rois de France.

Dubray, —. Histoire du couronnement (Napoléon Ier).

Héry. Couronnement des empereurs par les papes.

Huish, R. An authentic history of the coronation of George IV.

Leber, C. Des cérémonies du sacre.

M—. Histoire des inaugurations des rois, empereurs et autres souverains de l'univers.

- Marlot, G. Le théâtre d'honneur et de magnificence préparé au sacre des roys.
- Menin, —. An historical and chronological treatise of the anointing and coronation of the kings and queens of France.
- Miel, F. M. Histoire du sacre de Charles X.
- Morus, H. De sacris unctionibus.
- Silver, T. The coronation service and consecration of the Anglo-Saxon kings.
- Thomson, R. A faithful account of the processions and ceremonies observed in the coronation of the kings and queens of England exemplified in that of George III and Queen Charlotte.
- Thurston, H. The coronation ceremonial: its true history and meaning.
- Woolley, R. M. Coronation rites.
- Le sacre et couronnement de Louis XIV roy de France et Navarre.
- Le sacre et couronnement de Louis XVI.
- Le sacre et couronnement du roy de France.
- Le sacre et couronnement de la royne.
- Prima e seconda coronatione di Carlo Quinto.
- The entire ceremonies of the coronation of King Charles II and Queen Mary, consort of James II.
- A complete account of the ceremonies observed in the coronations of the kings and queens of England.

ECCLESIOLOGY.

- Armstrong, E. C. R. Catalogue of silver and ecclesiastical antiquities in the collection of the Royal Irish Academy.
- Bishop, E. Liturgica historica: papers on the liturgy . . . of the Western church.
- Dalton, J. N. The collegiate church of Ottery St. Mary.
- Fryer, A. C. Gloucestershire fonts: (a) 15th century.
- Houghton, F. T. S. The low side windows of Worcestershire churches. The Hospital of St. Cross, Winchester.
- See also: Architecture, Glass, Plate, Woodwork.

ECONOMICS.

- Banister, J. Jews in Cornwall.
- Coulton, G. G. Social Life in Britain from the Conquest to the Reformation.
- Gras, N. S. B. The evolution of the English corn market.
- Green, E. The early tin trade and the isle of Ictis.
- Hemmeon, M. de V. Burgage tenure in mediaeval England.
- Jeudivine, J. W. The foundations of society and the land.
- Lewis, G. R. The stannaries; a study of the English tin mines.
- Palmer, A. N., and Owen, E. A history of ancient tenures of land in North Wales and the Marches.
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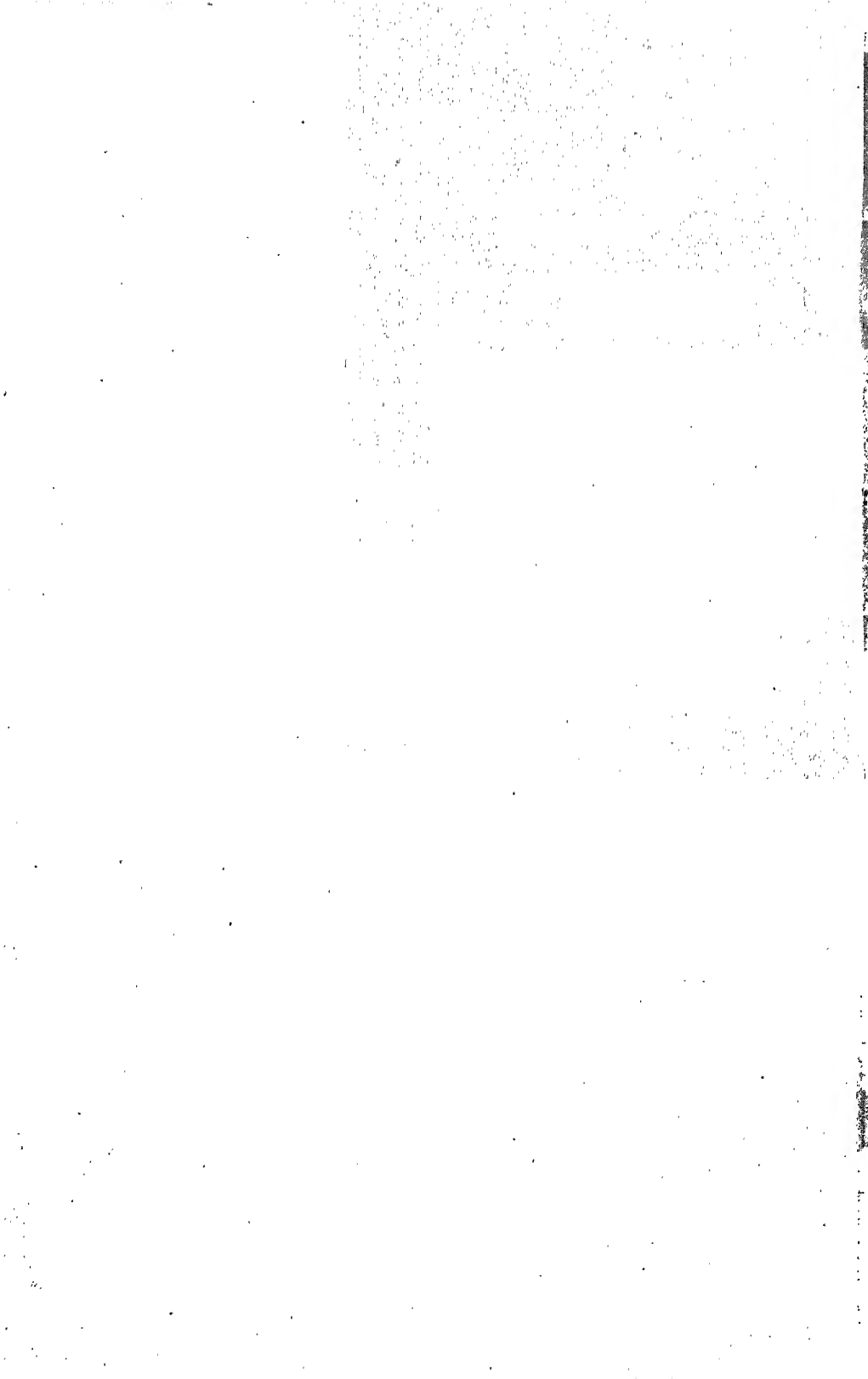
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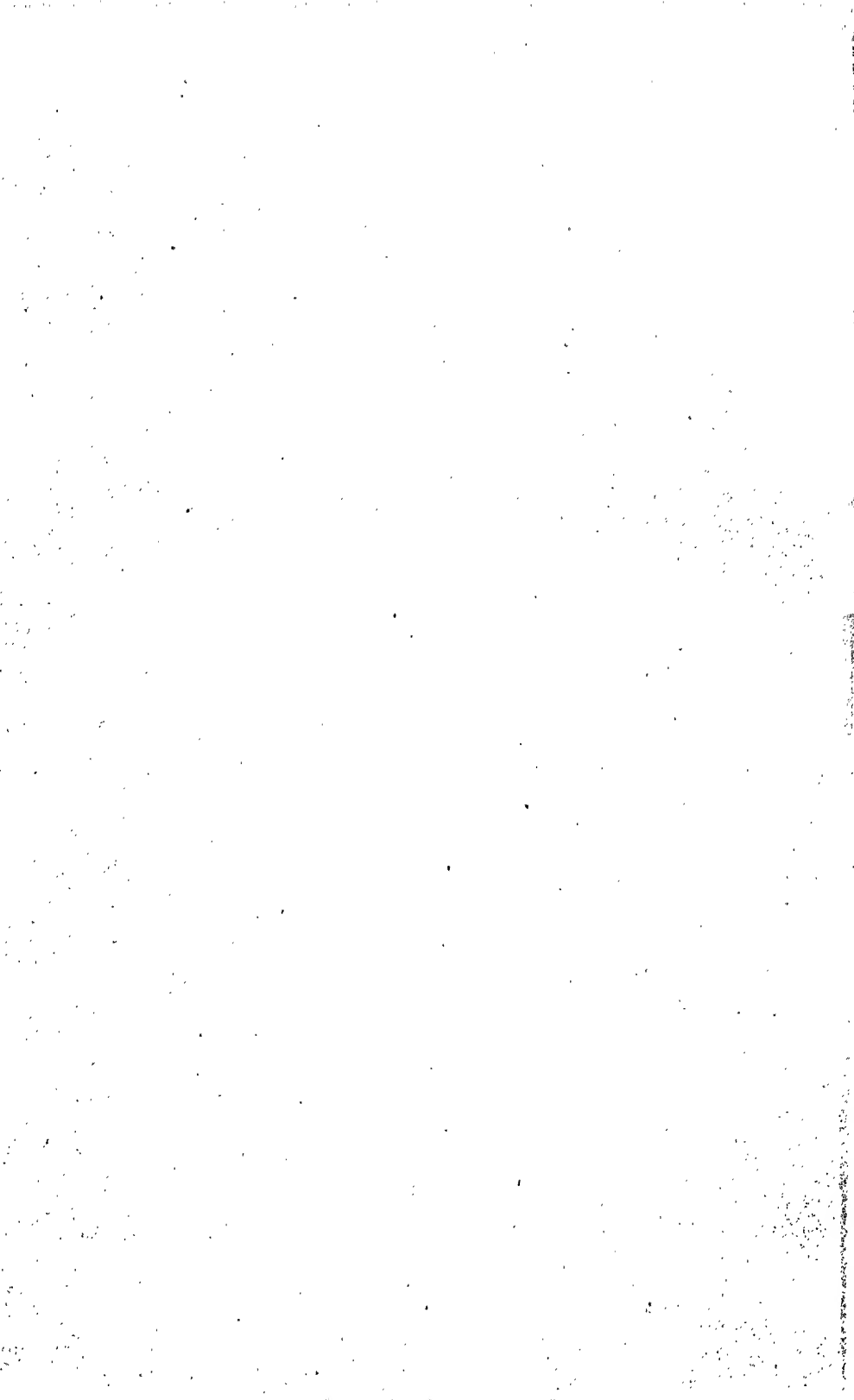
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SOCIETY OF ANTIQUARIES
OF LONDON

STATEMENT OF ACCOUNT
FOR THE YEAR 1918



NOTE ON THE ACCOUNTS FOR 1917

THE surplus shown by the accounts for 1917 (£221 17s. 11d.) contrasts at first sight very satisfactorily with that of 1916 (£124 1s. 4d.); but accounts seldom show on the surface all they have to teach, and if the two results are to be honestly compared certain other facts must be taken into account. These are as follows :—

1. One of the three remaining annuities under the Stevenson bequest lapsed, and before the Court could be brought to make the necessary arrangements arrears of income had accumulated on this to the amount of £60 14s. 2d., which increased our income in 1917 by that amount.

2. Two investments for the first time paid their dividends (though for the second half of the year only) free of income-tax. By this 1917 benefited by £43 9s. 5d., at the expense, of course, of 1918.

3. As income-tax rises so does the amount recovered increase, and 1917 received £93 19s. 5d. more than 1916 from this source.

4. The Society has since 1914 been investing all it could spare in the various War loans. These investments show £40 16s. 10d. increased income in 1917 over that of 1916.

5. The arrangements made on the calling up of the Assistant Secretary affected the item Salaries, which they diminish by £90.

Giving to these various factors their due weight, as must be done to obtain a just comparison of the two years, the result is to show a slight deficit in 1917 when contrasted with 1916, instead of the improvement borne on the face of the accounts.

The Society is, however, permanently better off by the increase in the Stevenson bequest income (£25 per annum more), and by the return from War loan investments. These latter, now all converted into 5 per cent. War Stock, stood at the end of 1917 (taking the General, Owen, and Research funds together) at £2,233 19s. 11d., to which has since been added £66 0s. 1d., making £2,300 0s. 0d. of this Stock. A further purchase of £450 5 per cent. National War Bonds brings the total present holding of War issues up to £2,750.

WILLIAM MINET,
Treasurer.

INCOME AND EXPENDITURE ACCOUNT

		INCOME.			
		£	s.	d.	£ s. d.
Subscriptions		1796	11	0	
„ unpaid		18	18	0	
					1815 9 0
Admissions		220	10	0	
Less $\frac{1}{2}$ to Research Fund		44	2	0	
					176 8 0
Dividends		785	8	7	
Income-tax repaid		250	7	9	
Court of Chancery		168	13	3	
					1204 4 7
Sale of Publications					132 13 11
Sundry Receipts:					
Interest on Deposit		21	5	11	
Sundries		67	11	8	
					88 17 7

£3417 13 1

FOR THE YEAR ENDING 31st DECEMBER, 1917.

EXPENDITURE.

	£	s.	d.	£	s.	d.
Publications				1083	17	8
Library :						
Books	78	7	4			
Binding	58	2	2			
Subject Catalogue	105	2	6			
				286	12	0
Subscriptions to Societies				49	0	0
Salaries, Wages, Allowances, Pension :						
Secretary	50	0	0			
" assistant	220	0	0			
Clerk and Librarian	300	0	0			
Porter	141	0	0			
" allowances	21	5	0			
Wages	159	18	0			
Pension, Sir W. Hope	250	0	0			
Income-tax and insurance	69	3	2			
				1211	6	2
House Expenditure :						
Licences	1	16	0			
Insurance	27	9	3			
" aircraft	12	14	0			
Lighting	57	8	1			
Fuel	71	14	0			
Tea at Meetings	15	0	4			
House necessities	16	12	11			
Cleaning	70	17	9			
Clock winding	2	19	6			
				276	11	10
Official Expenditure :						
Printing	49	16	2			
Postage	49	3	9			
Stationery	14	12	9			
Telephone	8	0	0			
				121	12	8
Sundry Payments :						
Legacy duty and costs	28	4	8			
Copying Minute Books	27	3	0			
Sundries	66	7	2			
				116	14	10
Repair Fund				150	0	0
Balance, carried to Balance Sheet				221	17	11
				£3417	13	1

REPAIR

	£	s.	d.
Balance, 31st December, 1916	218	15	4
Appropriation from Income and Expenditure Account	150	0	0
	<u>£368</u>	<u>15</u>	<u>4</u>

BALANCE SHEET,

LIABILITIES.

	£	s.	d.	£	s.	d.
Sundry Creditors				680	17	5
Owen Fund Income Account				18	18	10
Repair Fund				352	10	10
Balance, 31st December, 1916	31258	8	7			
Less five Fellows amoved	14	14	0			
Less two Fellows allowed at £1 1s. under Active Service Statute	4	4	0			
				18	18	0
				31289	5	7
Add:						
overestimate sundry creditors	25	19	9			
underestimate sundry debtors	8	8	3			
Balance from Income and Expenditure Account	221	17	11			
				256	5	11
				31495	11	6

£32497 18 7

FUND.

Sundry repairs	£	s.	d.
Balance to Balance Sheet	11	4	6
	352	10	10
	£363	15	4

31st DECEMBER, 1917.

ASSETS.				£	s.	d.	£	s.	d.
Investments—General Fund:									
Metropolitan 8 per cent. ¹				11060	5	2			
Metropolitan Water Board 3 per cent.									
“B” Stock (at Cost)				1000	0	0			
War Stock 5 per cent. (at Cost)				1845	14	6			
Ditto—Stevenson Bequest:									
Bank Stock ¹				7162	6	4			
Great Northern 4 per cent. Perpetual Preference ¹				3692	7	6			
London and North Western 4 per cent. Guaranteed ¹				3763	6	1			
North Eastern 4 per cent. Guaranteed ¹				3741	8	1			
Midland 2½ per cent. Consolidated Perpetual Preference ¹				494	11	8			
							32259	18	11 2
Sundry Debtors:									
Subscriptions				18	18	0			
Publications				120	0	0			
							138	18	0
Cash:									
Drawing Account				74	6	8			
In hand				25	0	0			
							99	6	8
							£32497	18	7

¹ Valued at Stock Exchange prices, 31st December, 1899.² The Investments which stand at £32,259 18s. 11d. as above were worth at middle prices, £19,670 5s. 2d. at the end of 1917.

We have examined the above Income and Expenditure Account and Balance Sheet with the Books and Vouchers and certify them to be correct. We have satisfied ourselves as to the existence of the Securities belonging to the Society. The value of the Library, Antiquities, Furniture, and Pictures of the Society is not taken credit for in the Books or the Balance Sheet.

FRANCIS W. PIXLEY.
 PERCIVAL D. GRIFFITHS.
 JEROME BANKES.
 M. S. GIUSEPPI.

March 19th, 1918.

RESEARCH FUND—

		RECEIPTS.			
		£	s.	d.	£ s. d.
Balance in hand, 31st December, 1916	94 8 11
Dividends	181 3 8
Income-tax refunded:					
1915	14 10 2
1916	38 0 6
Subscriptions	47 19 8
Grant from General Fund, part admission fees:	57 3 0
1916	81 10 0
1917	44 2 0
					75 12 0
					<u>£406 7 8</u>

SOCIETY'S INVESTMENTS.

Amount of Stock.						
£	s.	d.		£	s.	d.
10588	19	7	Metropolitan 3 per cent.	11060	5	2
2128	9	6	Bank Stock	7162	6	4
2725	0	0	Great Northern Railway Consolidated 4 per cent.			
			Perpetual Preference	3692	7	6
2757	0	0	London and North Western Railway 4 per cent.			
			Guaranteed	3763	6	1
2761	0	0	North Eastern Railway 4 per cent. Guaranteed	3741	3	1
592	5	10	Midland Railway 2½ per cent. Consolidated Perpetual Preference			
				494	11	3
1010	1	0	Metropolitan Water Board 3 per cent. "B" Stock	1000	0	0
1418	15	10	War Stock 5 per cent.	1345	14	6
			As per Balance Sheet	<u>£32259 13 11</u>		

SUMMARY OF CASH ACCOUNT.

EXPENSES.										£	s.	d.
War Loan	.	.	.	.	.	.	.	.	.	282	10	0
Cheque book	.	.	.	.	.	.	.	.	.	0	4	0
Templeborough Excavations	.	.	.	.	.	.	.	.	.	50	0	0
Balance	.	.	.	.	.	.	.	.	.	128	18	8

£406 7 8

31st DECEMBER, 1917.

£	s.	d.	OWEN FUND.	
254	18	7	War Stock	5 per cent.
RESEARCH FUND.				
1805	13	4	India	3½ per cent.
500	0	0	J. Dickinson & Co., Ltd.,	5 per cent. Preference.
527	18	0	Victoria	3 per cent. Consolidated Inscribed.
966	4	2	Metropolitan Water Board	3 per cent. "B" Stock.
560	10	6	War Stock	5 per cent.

Amount of
Stock.
£ s. d.

Note.

In the High Court of Justice, Chancery Division.

In the suit of Thornton v. Stevenson.

The Stocks remaining in Court to the credit of this cause are as follows, viz.:

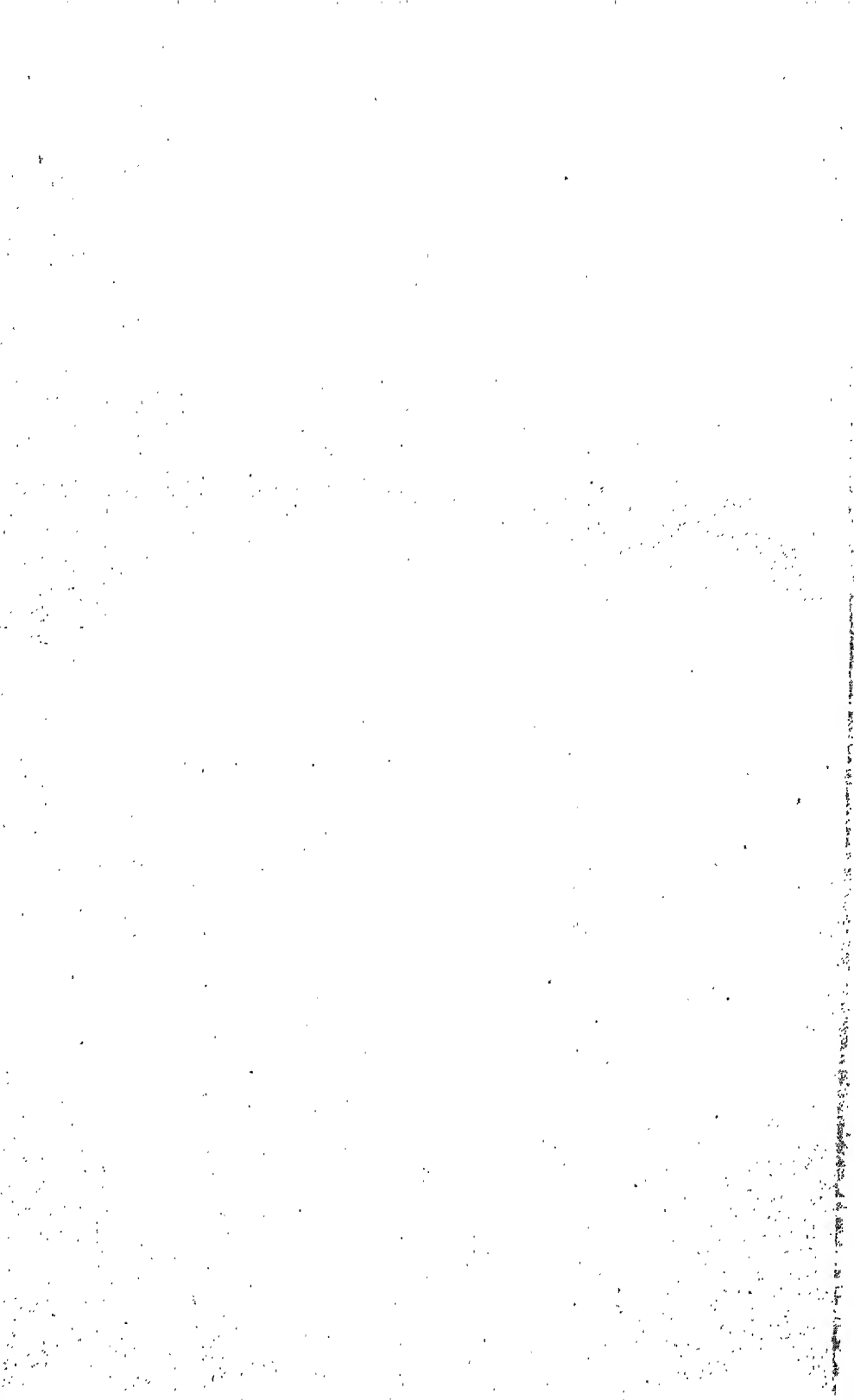
Great Western Railway	5 per cent. Guaranteed	8894	0	0
Midland Railway	2½ per cent. Perpetual Preference	14889	8	5

£23783 8 5

After paying of certain annuities, now amounting to £200 per annum, the Society is entitled to one-fourth share of the residue of the income of the above fund.

WILLIAM MINET,

Treas. S. A.



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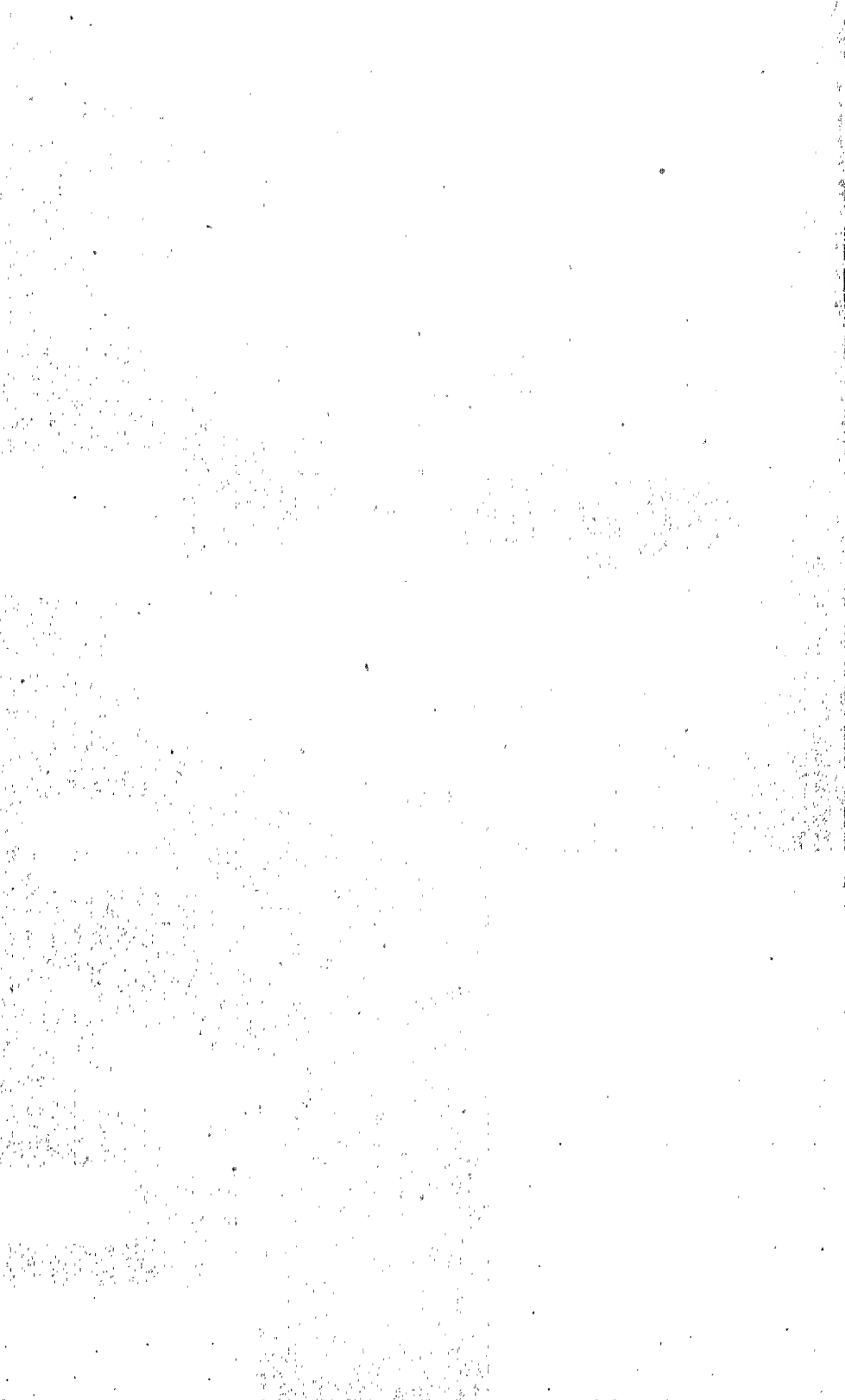
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